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ON SOME RECENTLY DISCOVERED WORKS BY  
LUCA DELLA ROBBIA

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It is my privilege to call attention to four works by Luca della Robbia, which have hitherto, so far as I am aware, escaped the notice of historians of art. As is the case with many objects which have wandered from their homes, the original provenance of these monuments has been forgotten and historical or documentary evidence is wanting, but the sculptures speak for themselves and historical documents would add little or nothing to the security of our attribution. Two of the four are in Nynehead Church, at Wellington, Somerset, and two are in the hands of a dealer in Paris.

1. *The Wellington Madonna* (Fig. 1).

This relief was originally rectangular in shape, measuring in height 0.75 m. and in breadth 0.45 m. It has been cut away at the upper angles so as to fit into a niche of late Gothic form, arranged to receive it in 1833, when it was presented to the church by the vicar, Rev. John Sanford. The figures are covered with a thick, hard, white glaze, and are set against a fine blue background. It is not to be classed as polychromatic, though there are traces of gold on the hair, the eyes have blue irises, dark blue or violet eyebrows and lashes, and the sloping base on which the child stands is gray blue. The small piece of blue background below the right knee of the child is splashed with white, but this appears to be accidental.

The composition is one which will be readily recognized as that of Luca della Robbia, but to prove this attribution it is necessary that we analyze the relief in detail.

In the lunettes from S. Pierino and from the Via dell' Agnolo, both of which are now in the Museo Nazionale, Florence, Luca had represented the Madonna and angels as emerging from or floating above the clouds. In the cantoria for the

Cathedral of Florence he had also represented the singing boys and maidens as standing upon clouds. Here we have a fragment of a lunette composition, from which the lateral angels



FIGURE 1.—MADONNA IN NYNEHEAD CHURCH, WELLINGTON, SOMERSET.

and the basal clouds have been omitted. The composition, although on a rectangular plaque, retains somewhat of a triangular or pyramidal character. The resultant effect is very

different from that of Andrea della Robbia's Madonnas, which, in many instances, represent a seated group.

It may be further noticed that the Child is here posed to the right of the Madonna. In the S. Pierino lunette, in all probability an early work, Luca had placed the Child toward the left; but the composition was not particularly successful, and almost invariably afterward he set the Child to the right.<sup>1</sup> In this group, as in many others by Luca della Robbia, neither the Madonna nor the Child wears a halo, but inasmuch as Luca made use of haloes as early as 1442 (Peretola tabernacle) and again in 1455 (Federighi Tomb) it is not easy to determine whether the presence or absence of the halo has, in Luca's works, any chronological significance. As a rule, however, Luca made little use of haloes, while his more conventional nephew, Andrea, employs them with great frequency.

If we regard the structural forms, we find in the Madonna's oval face, her long neck and flat breasts, her slender arms with hands ending in long tapering fingers, characteristics which may be paralleled in many of Luca's Madonnas. Add to this the waving hair, almost obliterating the ear, the blue eyes with the stippled eyebrows, the long, straight nose, the timid, open mouth, and the sharp-pointed chin, and the attribution approximates certainty. The drapery also is most characteristic of Luca's handiwork. We note especially the ruffle and flat neck band, the simple folds of the tunic, the plain girdle without even a bow knot, the tight buttoned sleeves, and the mantle drawn across the front. All of these peculiarities are many times repeated in Luca's Madonnas. One little detail should not escape our notice. The portion of the mantle which covers the body is drawn together above the arm which sustains it. In this case it forms only a slight gathering, but it becomes a more distinct bunch in the Urbino lunette (1449-1452), in the Federighi Tomb (1455), in the Foulc Adoration, and in the Adoration at Wellington.

The Wellington Madonna, though resembling several of Luca's Madonnas, is closely related to one which was once in the collection of Marchese Carlo Viviani della Robbia and

<sup>1</sup> In Madame André's Madonna the Child is turned to the left. Cf. Bode, *Denkmäler Tosc. Sc.*, Taf. 215<sup>b</sup>; Schubring, *Luca della Robbia*, Abb. 84.

later in that of Prince Demidoff.<sup>1</sup> The composition of the latter relief is less pyramidal, better adapted to the rectangular form of the plaque. The Madonna is more matronly, wears a veil and a halo, and is less intimate in her embrace of the Child. The Child wears a halo, but otherwise closely resembles the Child of the Wellington Madonna, even to details of modelling. He grasps with his right hand the Madonna's mantle, but with his left holds an apple. The Demidoff Madonna seems to be somewhat more advanced as a work of art, but the sculptor adheres to the same forms and to the same type of drapery, including the ruffles, flat neck band, plain girdle, and buttoned sleeves. He has, however, reverted to an earlier type in displaying the clouds from which Mother and Son are emerging.

It is difficult to assign a date to the Wellington Madonna, but the comparisons we have made suggest that it may be assigned to within a few years of 1450.

2. *The Wellington Madonna adoring the Child* (Fig. 2).

The generous vicar, Rev. John Sanford, in the same year (1833), presented also to Nynehead Church, Wellington, a very beautiful Madonna adoring the infant Christ. He labelled it correctly, "The work of Luca della Robbia," an attribution which the wise men of Wellington no longer respect. They assign it to the school of Andrea, as if it were only one of the innumerable adorations so familiar to us all. On the contrary this adoration is quite unique,—there being no replica of it,—and its composition, form, color, and the enamel, all point to Luca della Robbia as its author.

The finest of Andrea's representations of the Adoration is the very beautiful altarpiece at La Verna, a marked feature of which is the presence of God the Father, surrounded by six cherubs, by the Holy Spirit represented as a Dove, and by eight angels amid the clouds singing the Gloria in Excelsis. In the countless reliefs representing the Madonna adoring the Child which are referable to Andrea della Robbia it would be difficult to cite a single instance<sup>2</sup> in which there is not one or

<sup>1</sup> Bode, *Denkmäler*, Taf. 243\*; Marcel Reymond, *Les della Robbia*, p. 110; Schubring, *Luca della Robbia*, Abb. 83.

<sup>2</sup> Except predella reliefs.

more of these heavenly accessories. At Wellington we have the Adoration reduced to its simplest elements, with no sug-



FIGURE 2. — ADORATION IN NYNEHEAD CHURCH, WELLINGTON, SOMERSET.

gestion of clouds or of the inhabitants of Heaven. It is merely a beautiful young mother worshipping a child, with annunciation lilies in the background to tell us that this mother is the

Blessed Virgin Mary. As in Luca's representations of the Mother and Child, the accent is placed upon the Madonna. Through her expressive attitude, not by any dominating gesture on the part of the Child, are we directed to the object of worship. Luca frequently uses triangular or pyramidal composition, which is effected here by the very unusual device of carrying the mantle diagonally across the background and spreading it beneath the Child. In the Statens Museum at Copenhagen there is a Madonna, apparently by Luca della Robbia, in which the Mother carries the Child partially in her mantle. Andrea della Robbia also, in an altarpiece at S. Maria in Grado at Arezzo, spreads the Madonna's mantle to either side so as to protect the people—a composition known as the Madonna del Soccorso or Madonna delle Grazie; but a Madonna adoring and thus protecting the Child is not known to me in any other example. The two lily plants fill out the otherwise vacant space on either side.

The posing of the figure, in almost absolute profile, is also another characteristic of Luca. In the cantoria, in the Campanile reliefs, and in the marble reliefs for the altar of S. Peter, we find a number of figures so posed that the representation of one arm is dispensed with: The Madonna Dolorosa on the background of the Federighi Tomb is posed so nearly in exact profile that her left hand is barely indicated. At Wellington we have to examine the modelling very carefully before we discover the slight, very flattened relief which suggests the Madonna's right arm. In Andrea's reliefs the figures are almost invariably so posed that both arms and both hands are displayed.

I have already called attention to Luca's method of gathering a bunch of drapery beneath the Virgin's arm. This is here very boldly done, and I may add that the outline of the spreading mantle is not altogether natural but somewhat arranged for effect, although the body of the mantle is treated with simple, massive folds. The headdress and fillet across the brow, the waving hair, the features of the face and the hands are all such as we expect to find in Luca's work. The bed of hay upon which the Child rests and the lilies are indicative of Luca's observation of the forms of nature. It would



be interesting to trace the evolution of the lily as represented by Luca della Robbia, but this can hardly be done with certainty. In the lunette from the Via dell' Agnolo the lilies seem to have no pistils or stamens, nor do we see them in the lilies carried by S. Domenico in the lunette at Urbino (1449-1452). They appear to be lacking also in the lilies of the mosaic border of the Federighi Tomb (1455). On the other hand they are indicated in the apparently early frame of the S. Pierino lunette, and on either side of the Madonna on the exterior of Or San Michele, and best of all in this Wellington Adoration. These fine lily plants influenced Andrea della Robbia when he made the very beautiful Annunciation at La Verna, but such naturalism as is seen in the lilies at Or San Michele and at Wellington was not destined to survive. In some of the works of the Robbia school the lily degenerated in form so as to be scarcely recognizable.

The Madonna and Child and lilies are covered with a hard, white enamel, the other colors being a fine blue for the background, a gray blue for the sloping base, light blue for the irises, and violet for the eyebrows of the Madonna, yellow green for the hay, and dark green for the stalks of the lilies. The relief measures in height 0.70 m. and in breadth 0.60 m.

3-4. *Medallions representing Prudence and Faith* (Figs. 3-4).

In the Galleries Heilbronner, Paris, are two very remarkable medallions, representing Prudence and Faith. The owner admits that they came from Florence, but beyond that is silent as to their provenance. We are at once tempted to believe that there must be other virtues by the same hand, and that by searching we may discover Temperance, Fortitude and Justice, and perhaps also Hope and Charity. It so happens that the Cluny Museum contains two glazed terracotta medallions of the same general character. One of these, representing Temperance,<sup>1</sup> belongs in fact to the same series as those in the hands of Heilbronner; the other representing Justice is slightly larger and belongs to a slightly different series in which the Virtues were represented as winged. As both winged and wingless Virtues are found in earlier Florentine

<sup>1</sup> Cruttwell, *Luca and Andrea della Robbia*, p. 100; Marcel Raymond, *Les Della Robbia*, p. 49.

sculpture, we are not surprised to find both types here. It may be remarked that the provenance of the Cluny Museum medallions is not very certainly known. Du Sommerard, in his Catalogue of the objects exhibited in the Cluny Museum, declares on p. 214 that they were made for the Pazzi Chapel, and on p. 216 that they decorated a Pazzi palace near Florence. Cavallucci and Molinier call this statement in ques-



FIGURE 3.—PRUDENCE. HEILBRONNER'S, PARIS.

tion,<sup>1</sup> on the ground that the Pazzi Chapel preserves still its decoration complete. It may be observed, however, that the decoration of the Pazzi Chapel is not uniform, but heterogeneous. The four Evangelists in the spandrels of the dome are so nervously executed and so obtrusive in color, and stand

<sup>1</sup> *Les Della Robbia*, p. 63, note 1.

in such striking contrast to the calm and dignified Apostles on the walls as to puzzle every one who gives them even casual attention. The decoration of the Pazzi Chapel would be certainly more harmonious if we could remove the four Evangelists and put in their places the Temperance from the Cluny Museum and the Prudence owned by Heilbronner, with a Justice and Fortitude of similar quality. We are, therefore,



FIGURE 4. — FAITH. HEILBRONNER'S, PARIS.

tempted to consider the reliefs now in Paris as sample medallions designed for the famous Pazzi Chapel, but for some reason never put in place. So far as I could determine by rough measurements, they are of the proper size. The idea of decorating the dome of the Pazzi Chapel with the Cardinal Virtues may have inspired a similar decoration of the dome

of the Portogallo Chapel at San Miniato, and a change to the four Evangelists may have emanated from the evangelical reaction led by Savonarola. At the end of the fifteenth and in the early sixteenth century, the Robbias were no longer called upon to represent the Virtues, and in their decorations of domes at Venice, Prato, Siena, and Naples we find figured the four Evangelists. The style of the Heilbronner medallions, so far at least as the fruit frames are concerned, is very similar to that of the Pazzi *stemma* now in the Serristori palace, and to that of the René d'Anjou *stemma*, which once adorned the Loggia dei Pazzi at Fiesole, but is now in the Victoria and Albert Museum. Whatever may have been the immediate provenance or the original location of our medallions, their closest analogues are certainly with monuments made for the Pazzi family.

As for the authorship of these medallions, I have little hesitation in attributing them to Luca della Robbia. We may draw a very close parallel between the Heilbronner Prudence and the Temperance of the Cluny Museum. The diameter of each is 1.70 m., the frame mouldings are of an identical pattern so far even as to present the same number of eggs and darts; the band of fruit is in both cases composed of four divisions separated, and also subdivided, by cross bands and being actually constructed of eight segments coincident with these cross bands; in both cases the fruit, as in Luca's garlands, is asymmetrically distributed, and consists of pines, oranges, grapes, and quinces,<sup>1</sup> the very same fruit which he used in the garland surrounding the Pazzi arms.

In both cases we have wingless figures, glazed in white, with stippled blue eyebrows and light yellow irises, and set against a grayish blue ground. The background is broken into segments resembling those of the Pazzi Chapel Apostles, and the resemblance to the Pazzi Chapel medallions is still closer when we add the glories which radiate from the figures<sup>2</sup> and the clouds from which they emerge. The figures are of similar length, have finely formed heads and exquisitely modelled

<sup>1</sup> In the Cluny medallion the quadrant of oranges is subdivided into oranges and cucumbers.

<sup>2</sup> Visible on the originals.

hands. The hair, especially in the Temperance, is more minutely rendered than was customary with Luca, but in both medallions we see the little curl upon the cheek, which occurs in so many of Luca's Madonnas. In both cases the ear is distinctly represented—quite unusual with Luca—but on two of the Pazzi Chapel Apostles the ears are shown in full. The draperies are similarly complicated, showing the same shoulder capes and the folds of the mantle drawn across the body with evident regard to artistic effect. Luca's draperies are usually simpler than these, but in the Wellington Adoration we have already noted a similar tendency to elaboration.

The Cluny Temperance is attributed to Luca della Robbia by Du Sommerard, Cavallucci and Molinier, de Foville, Marcel Reymond, Miss Cruttwell, Madame Burlamacchi, and Venturi. Dr. Bode alone has expressed a doubt, assigning it to "some artist like A. Pollaiuolo."<sup>1</sup> But he has recently written me that he has retracted this opinion and now believes both the Cluny and the Heilbronner medallions to be by Luca della Robbia. If the Cluny Temperance be by Luca della Robbia, then the Prudence medallion is his also.

Once again Luca della Robbia represented the Cardinal Virtues—for the vault of the Portogallo Chapel at San Miniato. Here the Virtues are winged, but they are still three-quarter-length figures, rising from clouds and set against a blue background, and from them emanate rays of golden light. The Prudence in the Portogallo Chapel resembles the one we have been studying in many ways. She holds a similar mirror and a similar snake. Her features and the old man's head are enough like those of the Heilbronner medallion to be attributed to the same hand. Even the eyes are indicated in the same way in both medallions. As a tondo composition the Portogallo relief is possibly the superior, since the wings of the figure help fill the space left vacant on either side. The Portogallo drapery is less elaborate, and recourse is had to superficial gilding to bring out such details as the hair, the feathers of the wings, and the borders of the costume. But the Heilbronner medallion is superior in dignity and charm. It represents such a conception of Prudence as would make a

<sup>1</sup> *Florentine Sculptors of the Renaissance*, p. 83, note 1.

strong appeal to the head of a powerful Florentine family. The Portogallo Prudence is ascribed to Luca della Robbia by Vasari, and all historians of art follow this attribution. I am confident, therefore, that the general consensus of competent critics will find in the Heilbronner Prudence also a fine example of the workmanship of Luca della Robbia.

The medallion representing Faith is evidently from the same source as the Prudence. It is of the same size, its frame is similarly bounded by an outer egg and dart moulding; its garland of fruit also consists of pines and quinces and grapes and oranges asymmetrically arranged and still further subdivided by crossing bands; the inner moulding of the frame consists of a rope ornament, a detail possibly confined to the frames of the other Theological Virtues, Hope and Charity, in case there existed also such a series. Considerations of style link this medallion both with the Heilbronner Prudence and the Cluny Temperance. We have a similar three-quarter-length figure, emerging from clouds, with similar waving hair and similar features. The costume is even more closely related to that of Luca della Robbia's Madonnas, and exhibits the little bunch of drapery caught up under her left wrist. The chalice and cross are of the type used by Andrea Pisano in his representation of Faith in the Baptistery gates, but here they are subordinated to the beauty of the figure. Amongst all the representations of the Cardinal and Theological Virtues, where can we find nobler and more beautiful types than those which Luca della Robbia has established in these medallions?

ALLAN MARQUAND.

PRINCETON UNIVERSITY,  
Dec. 26, 1911.

## THE FRIEZE OF THE ERECHTHEUM<sup>1</sup>

THE figures of the frieze of the Erechtheum, as has been stated in the text to Plates 31-34 of the *Antike Denkmäler*, Volume II, fall into two different groups in accordance with their size. The largest figures, the original height of which was about 0.65 m., are from the northern porch. The fragments which seem to belong to figures of this size are published on Plates 31 and 32. They are parts of about forty-seven different figures. In the fragments published on Plates 33 and 34 the remains of about thirty-seven different figures of the frieze of the cella are preserved.

Since the publication in the *Antike Denkmäler*, four additional fragments have been assigned with certainty to the frieze.



FIGURE 1.—GROUP FROM THE FRIEZE OF THE ERECHTHEUM.

<sup>1</sup> Translated from the author's manuscript by H. N. F.



Of these one belongs certainly to the frieze of the main building:

1. The head of the crouching figure in the group, *Ant. Denk.* II, Pl. 33, No. 5. This head has been actually set in place

(Figs. 1 and 2);<sup>1</sup> it looks down and forward.

To the same frieze seems to belong:

2. Inventory 4861 (Figs. 3-8). Crouching woman, to left. Head, forearms, and left foot are lacking. Fully draped.<sup>2</sup> Identified by Professor Fowler.

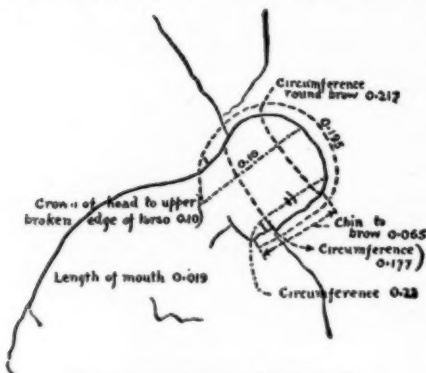


FIGURE 2.—HEAD IN FIGURE 1.

The number of figures belonging to the frieze of the cella, or main building, is therefore now about thirty-eight.

From the frieze of the northern porch comes without doubt:

3. A fragment of the larger series (Figs. 9-14),<sup>3</sup> identified

<sup>1</sup> The scale of the Figures is approximately 1:4.5 of that of the original stones, the scale of the figures in *Ant. Denk.* II.

<sup>2</sup> Height, 0.255 m.; width, 0.215 m.; greatest thickness, 0.140 m. The dowel hole in the back agrees exactly with Block VII (south side of eastern portico), first hole counting from the left (the numbering of the blocks follows *Ant. Denk.* II, Pl. 34). Figures 7 and 8 show the broken dowel-cutting and also show a second cutting which was in the back of the figure, behind the head, and which must have formed a slot between the back of the marble and the face of the Eleusinian stone. This slot is 0.046 m. wide and 0.017 m. deep; its height remains uncertain. On the back of this fragment, in the angle formed by the vertical edge of the dowel-cutting and the lower (horizontal) edge of the second cutting previously mentioned, are three pinholes, 0.004 m. in diameter, arranged

in a triangle thus:  
the centres of the



The measurements are perpendicular from holes to the edges of the cuttings.

<sup>3</sup> Height, 0.0316 m.; width, 0.32 m. (practically the full original width); greatest thickness, 0.145 m. Figures 13 and 14 show in the bottom of the fragment, in the angle behind the broken drapery, a pinhole which runs obliquely





FIGURE 3.—FRAGMENT OF THE FRIEZE OF THE ERECHTHEUM.



FIGURE 5.—SIDE OF THE FRAGMENT, FIGURE 3.

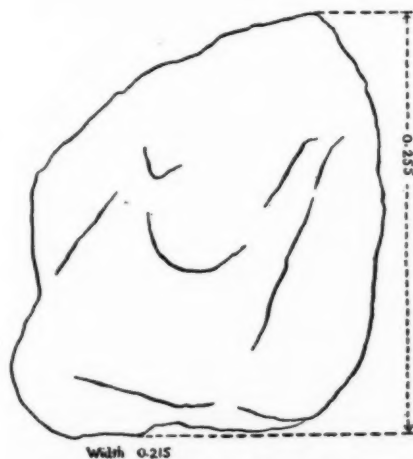


FIGURE 4.—SKETCH OF FIGURE 3.

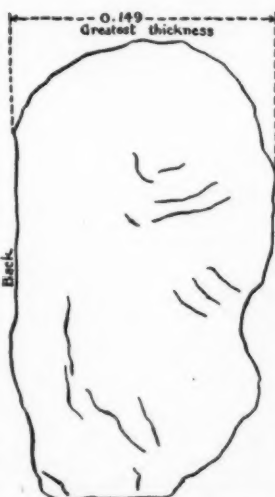


FIGURE 6.—SKETCH OF FIGURE 5.

by Professor Heberdey. A woman in full chiton and himation stands at the left of a *θρόνος*. This had arms, turned legs, and a piece of drapery fastened in front. On the seat lies a large cushion which is pressed down between the arms by the woman, the traces of whose left arm and left hand are clearly visible.



FIGURE 7.—SIDE OF THE FRAGMENT,  
FIGURE 3.

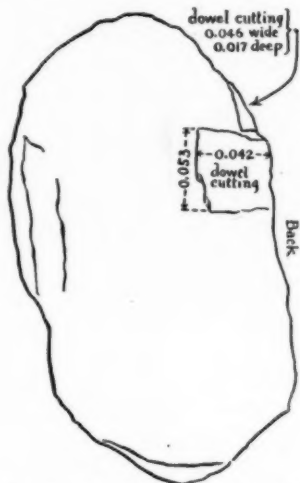


FIGURE 8.—SKETCH OF FIGURE 7.

The standing figure is broken away a little above the knees. The throne is very similar to that in *Ant. Denk.* II, Pl. 31, No. 17.

The female figure of this fragment raises the number of figures from the northern porch to forty-eight.

To the frieze of the northern porch belongs probably also:

4. Inventory 1133 (Figs. 15-18). Rear part of a pair of horses to left.<sup>1</sup> This may possibly belong to the same team with

through the marble to receive the pin for fastening the relief to the top of the architrave. The diameter of the hole at the bottom is 0.01 m. The centre of the hole is 0.049 m. from the back surface of the fragment, and is 0.167 m. from the left edge which appears in Figure 13.

<sup>1</sup> Height, 0.125 m.; width, 0.217 m.; greatest thickness, 0.125 m. In the left-hand broken surface are the remains of a broken dowel hole, the edge of which is visible in Figures 17 and 18. Its width is 0.04 m., its depth 0.03 m.



FIGURE 9.—FRAGMENT OF THE FRIEZE OF THE ERECHTHEUM.

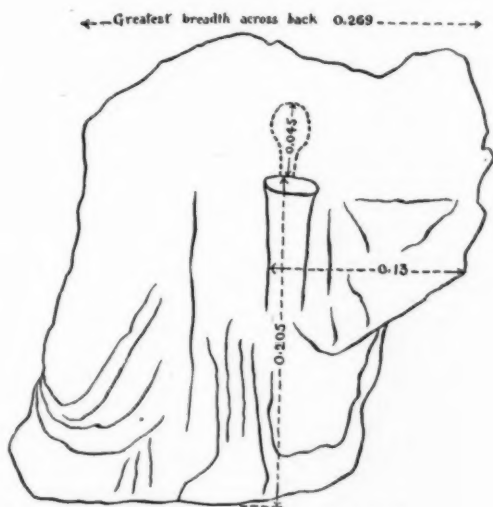


FIGURE 10.—SKETCH OF FIGURE 9.

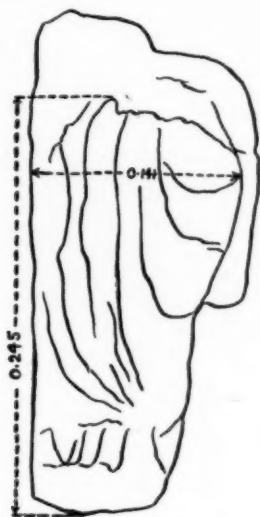


FIGURE 11.—SIDE OF THE FRAGMENT, FIGURE 12.—SKETCH OF FIGURE 11.  
FIGURE 9.

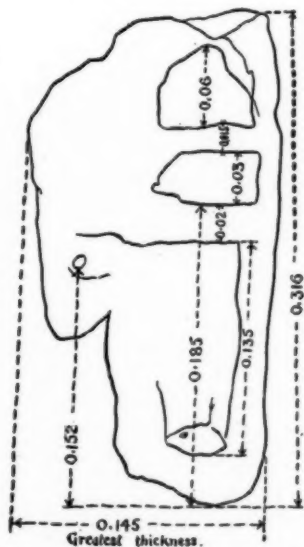


FIGURE 13.—SIDE OF THE FRAGMENT, FIGURE 14.—SKETCH OF FIGURE 13.  
FIGURE 9.

*Ant. Denk.* II, Pl. 34, No. 12; but differences in the chiselling at the back and in the cutting of dowel holes make this doubtful. The fragment agrees in scale with Pl. 34, No. 13, rather than with

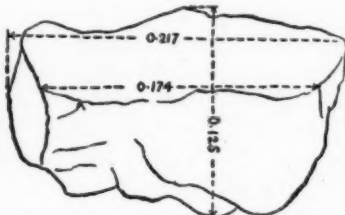
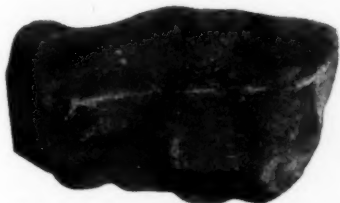


FIGURE 15.—FRAGMENT OF THE FRIEZE OF THE ERECHTHEUM. FIGURE 16.—SKETCH OF FIGURE 15.

Pl. 34, No. 11, the scale of which is certainly smaller than that of Pl. 34, No. 13. Accordingly it is to be presumed that the two teams galloping to left (Pl. 34, No. 13, and the new fragment, Inv. 1133), and also probably Pl. 34, No. 12, belong to the northern porch, whereas the team standing quietly to right



FIGURE 17.—FRAGMENT, FIGURE 15 FROM BELOW. FIGURE 18.—SKETCH OF FIGURE 17.

(Pl. 34, No. 11) and also probably the fragment of a horse likewise standing quietly to right (Pl. 34, No. 10) are from the frieze of the main building. The three first-named fragments, Pl. 34, Nos. 12, 13, and Inv. 1133, since they cannot be combined with one another,<sup>1</sup> indicate for the northern porch either

<sup>1</sup> Mr. Hill is very properly of the opinion that Inv. 1133 cannot be joined with Pl. 34, No. 13; nor can Pl. 34, No. 13, and Pl. 34, No. 12, belong together; in either case we should have a team of five horses.

three four-horse teams or two four-horse teams and one pair of horses, all galloping toward the left.

In each of the two groups of figures, those in quiet attitude, either seated or standing, are comparatively numerous. Some of them, *e.g.* Pl. 31, 11 and 17, Pl. 33, 22 and 23, are evidently divinities, and others produce at least the impression of divinities. If these fragments are compared collectively with the deities represented on the eastern friezes of the Parthenon, the "Theseum," and the temple of Athena Nike, it becomes pretty certain that on the Erechtheum, both on the northern porch and on the cella, deities were represented as present in the capacity of participants or spectators at some event. The analogy of the friezes mentioned makes it probable that the deities of the frieze of the cella were on the eastern front.

#### THE FRIEZE OF THE CELLA

From what has just been said it follows with some probability that a large proportion of the figures to be ascribed to the cella was on the still existing blocks of the eastern frieze. Further examination of the fragments published on Pls. 33 and 34 leads to the following groups:

(a) *A small group of figures which are, or seem to be, distinguished from the others by their smaller proportions, and are therefore certainly to be regarded as human beings.* These are: one standing or quietly walking female figure (Pl. 34, 7), one walking female figure (Pl. 34, 2), one kneeling female figure (Pl. 34, 6), and one male figure standing with somewhat bent knees (Pl. 34, 4).

(b) *A group of figures which are to be regarded not as actors, but as persons present at some action, and probably for the most part as gods or heroes.* These are: eleven figures standing quietly erect, six of which (Pl. 33, 2, 3, 4, 6, 7, and the standing man of Pl. 33, 5) are male and five (Pl. 33, 15, 17, 18, 19, and Pl. 34, 9) are female; three figures in quiet walking posture, all female (Pl. 33, 16—two figures—and Pl. 34, 1); ten seated figures, two of which (Pl. 33, 1 and 9) are male, and eight (Pl. 33, 12, 20, 21, 22, 23, 24, 25, 26) are female; and the crouching woman, Inv. 4861 (Fig. 2). To the same group are probably to be added two standing female figures (Pl. 33, 14 and Pl. 34, 3) and three

running female figures<sup>1</sup> (Pl. 33, 10, 11,<sup>2</sup> 13, and Pl. 34, 8). This group contains then thirty figures, eight of which are male and twenty-two female.

(c) *A group of four male persons in action* (Pl. 33, 5, the kneeling one, and 8, Pl. 34, 5 and 11).

The number of persons in action is then, compared with that of persons not in action, very small.

If one turns now to the blocks of the frieze and compares the height of the dowel holes in them above the ground line with the height of the holes which exist in the backs of the figures, one finds that holes at a height of over 0.40 m. correspond with standing,<sup>3</sup> walking,<sup>4</sup> or running<sup>5</sup> figures, and those at a height between 0.30 and 0.35 m. with those of seated<sup>6</sup> figures. The holes at a height between 0.35 m. and 0.40 m. seem to belong to figures which stand not quite erect.<sup>7</sup> In the erect

<sup>1</sup> Possibly spectators hurrying to the scene or messengers hastening to report some event.

<sup>2</sup> Pl. 33, 11 and Pl. 34, 8 might belong to the same figure.

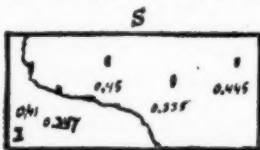
<sup>3</sup> Pl. 33, 15 (0.402 m.), 17 (0.42 m.). ("33, 15 fits E, II, 4 (Block II, east portico, fourth hole counting from the left) and E, V, 1 well. 33, 17 can be fitted to S, I, 1 (south frieze), and E, III, 1." — B. H. HILL.)

<sup>4</sup> Pl. 33, 16 (0.42 m.). ("33, 16 fits nowhere well in south or east." — B. H. HILL.) I am inclined to doubt this statement, unless indeed Mr. Hill has tried to fit the fragment to the blocks of the frieze; for we have several dowel holes at the height of 0.42 m.: E, VII, 2; E, V, 3; and also several at the height of 0.41, 0.425, and 0.43 m.

<sup>5</sup> Pl. 33, 10 (about 0.435 m.), 11 (about 0.42 m.).

<sup>6</sup> Pl. 33, 23 (0.335 m.), 24 (0.30–0.31 m.), 26 (0.315 m.). ("33, 20 can be fitted to E, V, 7, better in E, IV, 2; 33, 24 could be fitted at E, VI, 4; E, VI, 3 is also possible; 33, 26 fits E, II, 1 well, and E, V, 4 passably." — B. H. HILL.) I cannot understand Mr. Hill's statement concerning 33, 20, for there is, according to my observation, no sign of a dowel hole in this fragment. 33, 23 fits S, I, 4 = S, I, 3, *Ant. Denk.*, Pl. 34. There are five dowel holes — instead of four — in S, I, and one in E, I (S, I being the south face and E, I the east face of the S.E. corner block of the frieze). S, I, 4 is the second westward from the corner. ("The dowel hole I number 2 does not appear in *Ant. Denk.* II, Pl. 34, I now observe. No. 2 is 0.53 m. to left of No. 4, and 0.247 m. to 0.290 m. up from the ground." — B. H. HILL.)

<sup>7</sup> Pl. 33, 5 (0.35 m.). ("33, 5 can be placed at S, I, 4, though it fits there only passably. It can be placed nowhere else in the existing east or south frieze." — B. H. HILL.)



standing figure (Pl. 33, 19), the dowel hole is remarkably low, only about 0.32 m. above the ground line. This and a similar exception among the figures of the northern porch<sup>1</sup> are isolated, to be sure, but they warn us that we cannot determine with absolute confidence from the position of a dowel hole in a block of the frieze the posture of the corresponding figure.

Now if one observes the distances of the dowel holes in the blocks from one another, it is noticeable that the holes in the middle block (IV) of the eastern front, which is still *in situ*, are comparatively far apart. In block III, which is at the left of the middle, and probably, to judge by its length, belongs there, the holes are considerably nearer together and at approximately equal distances from one another. In block V, which is *in situ*,<sup>2</sup> the distances are less but less regular.

From these observations in regard to the heights of the dowel holes and their distances from one another, it follows that something exceptional must have been represented on the middle block (IV).<sup>3</sup> The first (0.365 m.) and third (0.39 m.) holes from the left in this block indicate figures which do not stand quite erect, and are therefore engaged in some action, or figures of somewhat smaller size. The second hole is placed remarkably low, even for seated figures. On the other hand, its height (0.27 m.) corresponds remarkably well with that of the dowel hole in the back of the horse that belongs to the team, Pl. 34, 11. If one restores the legs of this horse, the dowel hole is about 0.27 m. from the ground line. One is therefore tempted to assume that the team was here in the

<sup>1</sup> Pl. 31, 8. In this seated figure the dowel hole is at a height of only about 0.165 m.

<sup>2</sup> "There is no doubt that the blocks E, I-VI belong as shown in Pl. 34. The missing left end of E, II and right end of E, VI have been found, and blocks E, I-V are restored to their original positions, all indications given by clamps, dowels, and minor cuttings agreeing perfectly. The new part of E, II has no dowel. There were, I think, traces of a dowel in the break in E, VI (about as high as E, VI, 5) — it is now hidden by cement; no dowel north of the break. The length of the block is now 1.906 m., and we have 10.896 m. out of the original 11.126 m. of the length of this east frieze." — B. H. HILL.

<sup>3</sup> (The heights of the holes in E, IV, according to Mr. Stevens's measurements, are: first hole, 0.365 m., third hole, 0.395 m., left-hand low hole, 0.265 m., right-hand low hole, 0.319 m. — H. N. F.) ("In *Ant. Denk.* II, Pl. 34, E, IV, 4 and E, IV, 2 are wrongly put at the same height." — B. H. HILL.)



middle of the east front. In this case, to be sure, the team would have been fastened with only one dowel and the man who stood behind it was not fastened on separately; for the holes to the right and left of the one which is 0.27 m. above the ground line are too far away to have served in fastening any part of the group. On the other hand, these two dowel holes are so near the outer edges of the group that very little room is left for the figures which were held in place by the dowels.<sup>1</sup> Now it is not impossible that the team was fastened on by means of a single dowel,<sup>2</sup> and—especially since the extension of the group toward the left is doubtful—there would, in case of need, be room for a figure standing close to the car and for another busied with the foremost horse; nevertheless, it cannot be positively affirmed that the existing team really belongs in this place, though a very similar group of slightly less extent to right and left from the dowel may very well have been fastened by E, IV, 2.

The dowel holes in the block (III) to the left of the middle, which are all, with one exception, at a height of more than 0.40 m., indicate that upright standing figures were here attached. Of these the four at the right, nearest the middle, stood pretty near one another. At the left side of the block the greater distances of the dowel holes indicate erect figures in moderate motion.

On block V the three middle holes probably served to secure two quietly standing and one seated figure. The figures corresponding to the holes at the left probably took part in the action in the middle of the frieze. At the right-hand side of the block the low (0.265 m.) position of the dowel hole and the great distance between it and the nearest dowel hole of block VI justify the assumption of a second team of horses.

<sup>1</sup> Mr. Hill estimates that the group extended *ca.* 0.52 m. to the right (measuring to the breast of the foremost horse) from the dowel hole preserved in the back of the group. If the car wheel were represented as a full circle, the left-hand limit of the group would be about 0.50 m. from the dowel hole. But if the wheel were represented in perspective, *i.e.* were actually carved as an ellipse, the left-hand edge might be considerably nearer the dowel hole.

<sup>2</sup> The dowel hole is exactly in the middle of the group. Moreover, the group of the two standing women (Pl. 33, No. 16) has only one dowel hole, which is placed pretty high (0.42 m.) in the back of the left-hand figure.

In block II the dowel holes II, 2, 4, 5, 6, 7 indicate upright figures in moderate motion. I venture no hypothesis concerning the purpose of the two holes close together, II, 8 and 9, or concerning the two extreme ends of the entire eastern front.

The middle of the frieze of this front lies between the dowel holes IV, 1 and IV, 2. If the conclusion that the hole IV, 2 served to fasten a team is correct, then the team occupied exactly the middle of the scene.

Among the figures in the attitude of spectators the following may with some certainty be regarded as divinities:

The female figures Pl. 33, Nos. 14, 15, 16 (Demeter and Cora?), 17 (Aphrodite?<sup>1</sup>), 18 and 19 (Charites?), 20, 21, 22 (Ge? Themis?<sup>2</sup>), 23 (Kourotrophos?<sup>3</sup>), 24, 25, 26; Pl. 34, 1, 3, 9; and probably, on account of similar representations on other monuments, the running maidens (Horae?), Pl. 33, 10, 11, 13, and Pl. 34, 8. The remains of female figures, Pl. 34, 2 and 7, can hardly be considered in connection with the east front on account of their small scale.

Among the male figures, the following may be regarded as spectators:

Pl. 33, 1-7 and 9. As to 1 and 9, which are on a smaller scale than the seated goddesses, I am doubtful whether they belong to the assembly of gods on the east front at all and should not rather be assigned to the north or the south side; but it may be that their state of preservation produces a false impression of a smaller scale. The nude man, Pl. 33, 6, and the two men with nude bodies and garments draped about their hips like aprons, might, like the man on Pl. 34, 11, have stood by the horses. The men wrapped in mantles, Pl. 33, 2 and 3, seem to belong among the gods who are looking on. The man leaning on his staff, who stands behind the kneeling youth (Pl.

<sup>1</sup> See Kekule, *Über eine weibliche Gewandstatue aus der Werkstatt der Parthenon-Giebelfiguren*, Berlin, 1894. With Kekule (*Die griechische Skulptur*, 21 Ed., p. 107), I consider it likely that the statue — which he is probably right in regarding as Aphrodite — served as a model for the maker of our figure.

<sup>2</sup> On the Omphalos see E. Maass in *Jh. Oest. Arch. I. XI.* p. 10 ff. On Themis see Preller-Robert, *Griechische Mythologie*, p. 211. pp. 475 ff.

<sup>3</sup> See Preller-Robert, *l.c.*, pp. 636, 1 and 764, 2.

33, 5), belongs without doubt, on account of his connection with the youth, among the mortals.

The number of the figures engaged in the action is, as has been remarked above, very small in comparison with that of the persons, mostly female, who are to be regarded as spectators. I will enumerate them in order in the manner in which the figures mentioned in the building inscription are there enumerated, and at the same time I will express my interpretation of the individual fragments by words in square brackets [ ]:

1. Pl. 33, 8. Nude man who stretches out his left leg or sits upon some object and [holds a lance in his raised right hand].

2. Pl. 34, 5. Nude man holding with his left arm a mast with yard and sail.<sup>1</sup>

3. Pl. 34, 5. Kneeling man clad in a himation which leaves his body free. He is occupied [with some object in front of him].

4. Pl. 33, 4. Man standing with bent knees. The upper parts are nude. The himation has slipped down upon his thighs. Both arms must therefore have been occupied.<sup>2</sup>

5. Pl. 33, 12. Figure sitting [in a box wagon]. The lower parts are covered by a himation.<sup>3</sup>

6. Pl. 34, 6. Girl in chiton and cloak, who has sunk down by the base [of a figure of a deity].

It seems to me advisable to put together here all the mate-

<sup>1</sup> That the previous interpretations of this fragment are untenable is made clear in the text to Pl. 34, 5. On the yard with furled sail, cf. the representation on a phiale in Berlin with glazed relief (Furtw. 3882, *Annali*, 1875, p. 290, Tav. d' agg. N (Klügmann). On the manner of fastening the sail to the yard see Kekule, *Die Antiken Terrakotten*, IV, 2, Pl. XXXII. Whether the man of our fragment was engaged in raising or lowering the mast or whether he was lying as a shipwrecked person upon the ruins of a ship — in *Ant. Denk.* II, Pl. 34, 5, it is assumed that he is lying down — I do not attempt to determine.

<sup>2</sup> Perhaps he took part in carrying the mast.

<sup>3</sup> On the feet which disappear in the box of the wagon, cf. *Compte rendu*, 1863, Atlas, II, 4 (2255), and Gerhard, *Auserl. Vasenb.* Pl. 217. The object resembling a handle, which is represented in low relief on the box, may belong to the frame of the wagon (cf. Gerhard, *Auserl. Vasenb.* Pl. 75, 76); the four-cornered remnant above was perhaps the point of attachment of the upper edge of the himation which was, in that case, carved free from the background. A similar trace of a wheel is preserved on the wagon in 34, 11 (cf. the text in *Ant. Denk.* p. 14, 11). Another possibility is mentioned below.

rial available for the interpretation of the frieze of the cella. I therefore add here the enumeration of the figures mentioned in the building inscription, beginning with the group which probably stood on the north side and, if the space from the northeast corner of the cella to the north porch is divided into four equal parts, about in the second quarter from the east.<sup>1</sup>

<sup>1</sup> Robert (*Hermes*, XXV, 1890, pp. 431 ff.) has rightly concluded from *I. G. I.*, 324 a, col. II, ll. 31-34 (payment for removing scaffolding from the north wall after the figures have been fastened to the frieze in the seventh prytany of 407-408 B.C.), that the sculpture for which 3315 drachmas are paid in the same prytany belonged to the north side of the temple. We might add to his arguments the fact that, according to the spacing indicated by the dowel holes for the east frieze, the 55 (or thereabouts) figures for which 3315 drachmas would be paid would be just about the right number for the length of frieze from the north porch to the northeast corner of the building. The length of the frieze of the north side, from the northeast corner to the roof of the north porch, measures 61 Attic feet on the upper and 53 Attic feet on the lower edge. Kolbe's combination (*Ath. Mitt.* XXVI, 1901, pp. 223 ff.), which proves the date 408-407 for the accounts of *I. G. I.*, 324, shows also that the sculptures named in 324 b belong with those in 324 c and cannot be assigned to different prytanies, as Robert wishes. Dr. Frickenhaus also, as he informs me, believes that the sculptures of the inscription d, col. II and b, col. I (which Kolbe, *Ath. Mitt.* XXVI, 1901, p. 228, put together), and c, col. I belong in the same prytany, in which 55 figures in all are paid for. In his opinion also these fit well on the northern wall (about 15 m. without the north porch), from which the scaffolding was removed at the same time. But he calls attention to the fact that the section relating to the *ὑπορύγιος* is not entirely preserved; it is therefore possible that other scaffolding also was removed at that time. If Robert's really obvious conjecture is nevertheless correct, then, as Dr. Frickenhaus very properly observes, because the enumeration seems to proceed from left to right (cf. the other representations of harnessing to wagons), the figures with the team of mules, mentioned in fragments d, II and b, I, must have been nearer the northeast corner than the group, mentioned in c, I, of persons harnessing horses to a wagon. The enumeration of all the figures occupied, by Frickenhaus' calculation, about 80 lines. Of these 13 lines are present in d, II and b, I, and 23 lines in c, I. If we follow the inscription and reckon one figure for every 60 drachmas, there are accounted for in these lines: in d, II and b, I, about 9½ figures, for which about 550 drachmas are paid (the reasons for this assumption will be given in the notes below); in c, I, about 14½ figures, for which (including the stele, which was delivered later) 867 drachmas were paid. The 14½ figures occupied then the quarter of the northern frieze next the northern porch. Since the beginning of the enumeration between a, II and d, II is wanting and there is a gap between b, I and c, I (the two gaps amount to about 40 lines), it may be assumed that the 8½ figures in d, II and b, I were about in the second quarter counting from the left.

1. *d*, II, ll. 9-11. A person who is throwing, setting, or laying something upon something or pushing something into something.<sup>1</sup>

2. *d*, II, 12, 13; *b*, I, 2-4. A youth who is busied with some object, a second youth who is writing (painting, drawing, etc.), and a third standing beside him.<sup>2</sup>

<sup>1</sup> The letters αλλ at the beginning of l. 11 are read by Kirchhoff as part of παλλαδίων. This restoration seems to me less probable than to assume that the letters in question are part of a verb and to restore the line as follows:

αλλ[οντα] <sup>β</sup>ΔΔΔ Πραχσίας ἐμ Με  
 λίττει [λοικῶν . . . . . β]

Another possibility is βάλλοντας ΗΔΔ; in the former case not only the man but also the object with which he is occupied would be included in the reckoning, in the latter case two figures. I consider the former more probable, since the figures are always listed separately. The letters αυσ at the beginning of l. 10 may perhaps be a remnant of the name of the object. The following is offered merely as an example of a possible restoration:

. . . . . Φυρόμα]  
 9. χ[ος Κηφισιεύς τὸν τὴν ἀμαχσ]  
 10. αὐ σ[ . . . . . β]  
 11. αλλ[οντα] . . . . .

One of the possible readings instead of ἀμαχσαν is κεφαλαί. I mention this possibility because the youth with the mast, the yard, and the sail under his arm (*Ant. Denk.* II, Pl. 34, 5) brings to mind the peplos of Athena, which was fastened in the Panathenaic procession as an *ιερὸν* to a frame consisting of *ιστῆς* and *κεφαλαί* (see the literature in Michaelis, *Parthenon*, pp. 329, 165-170; O. Benndorf, 'Beiträge zur Kenntniss des attischen Theaters,' *Zeitschr. f. Oesterr. Gymnas.* XXVI, 1875, pp. 70 ff.).

<sup>2</sup> I assume the following restoration:

11. . . . . Πραχσίας ἐμ Με]  
 12. λίττει [λοικῶν τὸν νεανίσκον]  
 13. τὸν τὸ σ[ . . . . .  
 14. . . . . γρ]άφοντα κα[νίσ]κον  
 15. [καὶ τὸν πρ]ο[σσεστ]ῶτα ἡαν[τ]ῶι Η  
 16. [Η Ηλίας] ἐν Κολλυτῶι λοικῶν

In ll. 15-16 Η<sup>2</sup> is possible instead of ΗΗ, in which case the youth writing and the one standing beside him must be reckoned as one and one-half figures. This would be conceivable if the youth writing were kneeling before the other, as on Pl. 33, 5. However, I consider ΗΗ more likely, as the *δπισθοφανής* mentioned in c, I, 5 is also reckoned at 60 drachmas. Then the total would include three persons at 60 dr. each and an object at 20 dr., the name of which must have stood in l. 13 and must have begun with the letter Ξ.

3. δ, I, 5, 6. An object<sup>1</sup> and a wagon for travelling or for freight.

4. δ, I, 7-9. A woman beside or on the wagon and the two mules before the wagon.

The second group of figures is recorded in ε, I:

1. L. 1. A male figure holding a spear.

2. Ll. 2-3. A youth beside a breastplate.

3. L. 6. A horse and a man who stands behind it and strikes its side.

4. Ll. 7-9. A wagon, a youth, and two horses which are being harnessed.

5. Ll. 10-11. A man leading a horse.

6. Ll. 12-15. A horse, a man striking it, and a stele added later.

7. L. 16. A man who holds the bridle.<sup>2</sup>

8. Ll. 18-20. A man standing beside an altar and leaning on his staff.

9. Ll. 21-22. A woman who has fallen or is kneeling by a little girl.

<sup>1</sup> 5. . . . κ]αὶ τὴν ἀμαχσαν πλ[ήν

6. τοῖν ἐμὸν]αὶν ΠΔΔΔΔ Ἀγαθάς-

7. [ορ

<sup>2</sup> In the gap at the beginning of l. 5 six letters are wanting. Robert (*l.c.* p. 439) thought of τὸ ἔδος in connection with his hypothesis that the whole scene represented the consultation of an oracle. It seems to me more likely that, if τὸ ἔδος is really the correct reading, the consecration of a statue of a god was represented. The statue need not have been in the wagon, as Weissmann (*Beiträge zur Erklärung und Beurteilung griechischer Kunstwerke*, Progr. d. humanistischen Gymnasiums in Schweinfurt, 1903, pp. 34 f.) thinks the price shows. The price of 30 drachmas would be as proper for a simple statue on an unadorned base as for the girl in ε, I, ll. 21-22. But other restorations besides τὸ ἔδος are possible, e.g. τὸ σῆμα or τὸ ἔρμα, which might designate the support that was intended to hold the ἱστῆς and the κεφαλή (cf. the representation on the *piombo*, Benndorf, *l.c.* Fig. 51). "Ἐρμα, by the way, denotes also the supports which are put under ships when they are dragged up on land. It may be that in one and the same piece of work the comparatively easy execution of the implements, etc., was entrusted to another workman than the more difficult execution of the figure. In view of this possibility, I do not consider the restoration τὸ γόνυ[ον τὸ ἥνι (instead of πρὸς, Kirchhoff) τῆς ἀμ]άτης in δ, I, l. 8 inadmissible. Schöne (*Griech. Reliefs*, p. 3) also thought ἐπὶ probable.

<sup>2</sup> Robert, *l.c.* pp. 432 ff., has shown that the figures 1-7 belong to a harnessing scene and has identified No. 4 with Pl. 34, 11. I consider his interpretation correct, though I do not follow him in all details. Pl. 34, 10 might be the remnant of No. 3 or of No. 6.

From the groups mentioned in the inscription and the remains of the figures engaged in action one derives the impression that various events were represented in the frieze of the main building, not one action, as in the frieze of the Parthenon, nor a few actions with a great number of participants, as in the battles of Greeks with Persians, Amazons, etc. Separate acts of a cult<sup>1</sup> are also hardly to be considered, though it is very tempting to connect the man with the mast and yard with the offering of the *πέπλος* at the Panathenaea. Figures like Pl. 34, 6, the girl who flees for refuge to a statue of a deity, have no place in scenes of cult, nor has the separate scene in which a war-chariot is being harnessed. This scene cannot well have formed part of a series of similar representations, in the manner of the frieze of the Parthenon; this is precluded by its position—the right-hand end of the northern frieze, which abuts upon the northern porch—and by the group of three figures beside an altar, which terminates the frieze at this point.

I agree with Robert in thinking that separate scenes from a cycle—or several cycles?—of myths were represented. But these scenes are not necessarily taken from the myths connected with Erechtheus. Why should not, for example, as in the metopes of the northern side of the Parthenon and in one of the pediments of the Argive Heraeum, scenes from the sack of Troy have been represented? The girl fleeing for refuge to an idol (Pl. 34, 6) and the man with mast and yard (Pl. 34, 5), indicating that a ship was represented, would fit in such a connection, though I do not wish to express any definite conjecture concerning the content of the composition.

#### THE FRIEZE OF THE NORTHERN PORCH

If my judgment concerning the size, the difference in workmanship, and the other circumstances that are to be considered is correct, fragments of forty-eight different figures and of three galloping teams which once adorned the frieze of the northern

<sup>1</sup> Weissmann, *l.c.*, whose conjectures are impossible, if for no other reason, because he combines figures from the frieze of the cella with figures from the northern porch. Although his treatise was published in 1903, Weissmann does not seem to be acquainted with the publication in *Ant. Denk.*, which appeared in 1899.



porch are preserved. There are (a) twenty-two figures standing quietly erect, three of which (Pl. 32, 10,<sup>1</sup> [11<sup>2</sup>], 17, 23) are male and nineteen (Pl. 31, 1, 14, 16, 18, 19, 20; Pl. 32, 2,<sup>3</sup> 7, 8, [9<sup>4</sup>], 14, 15, 16, 18, 19, 20, 21, 22, 24, 29, [32<sup>5</sup>], are female; three quietly walking female figures (Pl. 32, 12, 30, 31); and nine seated figures, two of which (Pl. 32, 25 and 33) are male and seven (Pl. 31, 8, 9, 10, 11, 12, 13, 17) are female. These thirty-four figures, like the similar figures of the frieze of the cella, are to be regarded as persons who are not engaged in action, but are merely present at an action, and for the most part as gods or heroes. To the same group are probably to be added: three female figures moving with a dancing step (Pl. 31, 6, 7; Pl. 32, 13), and six running figures (three to the left and three to the right), all female (Pl. 31, 2, 3, 4, 5; Pl. 32, [1<sup>6</sup>], [3<sup>7</sup>], 4, [5<sup>8</sup>], 6).

The total number of this group is then forty-three, of which five are male and thirty-eight female.

(b) Five female figures in action, two of which (Pl. 31, 15 and the figure at the left of a throne) stand in a bent posture and three (Pl. 32, 26, 27, 28<sup>9</sup>) are kneeling.

In the classification of these figures, as in that of the remains of the frieze of the cella, the very small number of figures engaged in action is striking. Moreover, the great proportion of female figures (forty-three to only five males) is remarkable. Since this proportion can hardly be due to chance, we must conclude that on the northern porch one or more actions were represented in which the females among the Attic deities and heroes were more strongly interested than the males. Now we must examine more closely the dowel holes in the blocks of the frieze.

Of this frieze six blocks (really only five stones) are still *in situ*: on the eastern side four and the corner block (narrow side), on the northern side the same corner block (long side) and one other. These blocks and the fragments published on

<sup>1</sup> Seated?

<sup>2</sup> Elbow, belonging perhaps to Pl. 32, 23. ("I too find it very possible that 32, 23 belongs with 32, 11." — B. H. HILL.)

<sup>3</sup> Standing? Running?

<sup>4</sup> Seated? Belonging to Pl. 31, 11?

<sup>5</sup> Belonging to Pl. 31, 18?

<sup>6</sup> Belongs perhaps to the frieze of the cella.

<sup>7</sup> Belongs perhaps to Pl. 31, 5.

<sup>8</sup> Belongs perhaps to Pl. 31, 2 or 3.

<sup>9</sup> The posture is not quite certain.



Pl. 34 give about 21 m. of the surface of the frieze now existing. Since the entire length of the frieze on the eastern, northern, western, and southern sides was about 25 m., the missing portion amounts, in round numbers, to 4 m. This missing portion must be assigned for the most part to the western and southern sides.<sup>1</sup>

In the existing blocks and fragments of blocks there are about sixty dowel holes.<sup>2</sup> That would be on an average 2.88

<sup>1</sup> (The northern porch is now restored, and the blocks of the frieze are, so far as they are preserved, set in the positions assigned them in Dr. Pallat's publication in the *Antike Denkmäler*. Block XIII is therefore on the western side. These blocks were already in place and covered by the cornice blocks before Mr. Stevens or I could examine them in 1903. There is, however, hardly the possibility of a doubt that they are correctly placed, for Mr. Balanos, who had charge of the restoration, was very careful and thorough. Moreover, as Mr. Stevens writes, "It could not have been very difficult for Mr. Balanos to get these frieze blocks back in their right places. The dowels which held them to the architrave blocks were checks, as were also the dowels which held the cornice blocks to the frieze blocks. All the cornice blocks, except a portion of one, are now back in place, and not only the dowels into the frieze blocks had to fit, but the cramps of adjacent cornice blocks had to fit, and cornice blocks which went under the pediment were even dressed to receive the pediment (tympanum) stones." "The cramps which hold the frieze blocks together would be a still further check. . . . The cramps of the frieze blocks had to fit not only in the case of the adjoining blocks (of the frieze) but also the backing blocks." Mr. Stevens suggests that the eastern side of the northern porch is the fitting place for the most important and elaborate part of the frieze, since it was conspicuous from the stairs on the outside of the northern wall of the building, while the close proximity of the wall of the Acropolis made it difficult to obtain a good view of the frieze of the northern front of the porch; and it is precisely on the eastern side that the evidence of the dowel holes indicates the greatest number of figures. — H. N. F.)

("The frieze of the north portico stands as indicated in *Ant. Denk.* II, Pl. 34, except that block XI is now complete (and has two dowel holes) and a block 1.10 m. long, which looks exactly like the largest unplaced fragment in Pl. 34, has been set in the left half of the space." — B. H. HILL.) It seems to me rather, judging by the photograph, as if two pieces — the third from the left in the row of unplaced blocks in *Ant. Denk.* II, Pl. 34, and a second fragment without dowel holes — had been used to complete block XI and the block mentioned by Mr. Hill, if I understand him correctly, "the largest unplaced fragment on Pl. 34," had been set on the south side in the last place but one from the left.

<sup>2</sup> Since Mr. Stevens's investigations the number can perhaps be given more accurately. The double hole in block XIII at the left, below, I have reckoned as one hole. (The exact number of dowel holes of the usual size is fifty-nine. There are in addition eleven small holes. One or two additional fragments, which cannot be placed, also contain dowel holes. — H. N. F.)

holes to a metre. For the missing 4 m. of frieze we should have to reckon eleven to twelve (11.44) additional holes, making in round numbers seventy for the entire frieze. If we deduct the small square or round holes in blocks IX, X, and XIII, and in one of the fragments, which may possibly have served for fastening attributes or the like, there remain about sixty-two holes of the size and shape of those in the figures. Approximately this number of figures was then contained in the frieze of the northern porch. According to the calculation above, forty-eight of these, that is, even if the number of dowel holes in the missing portion has been placed too low, the greater part of the original number, are preserved in fragments.

Now if we observe the grouping of the dowel holes, and at the same time bear in mind what has been said above about the disposition of the corresponding holes in the figures of the frieze of the cella (which is equally valid for those of the northern porch), it becomes evident that on the *eastern* side of the northern porch, to right and left of the middle block (III), erect standing figures were attached in comparatively large number, with some seated figures among them. In the middle block itself the arrangement of the dowel holes is essentially different. Here the three very low holes, 1, 3, and 4 (counting from the left), are noticeable. Of these, 3 and 4 would, in respect to their position, fit without difficulty in a representation of the birth of Erichthonius.<sup>1</sup> In the position of 3, Gaea might have been represented, in that of 4, Cecrops, whose serpent tail would then have been extended in the comparatively large space between 4 and 5. Hole 2 would then have to be assigned to Athena. For dowel hole 1 (unless one wishes to regard it as a hole placed exceptionally low, like that of Pl. 31, 8) a very low figure, perhaps seated on a rock, possibly one of the daughters of Cecrops,<sup>2</sup> could be assumed. Then the group published on Pl. 32, 27, for which the distance of the two holes 1 and 2 would suit,<sup>3</sup> could be assigned to this position. The female

<sup>1</sup> As to the representations of the birth of Erichthonius, v. Heydemann, *Ann. dell' Ist.* 1879, p. 114, n. 2, and Sauer, *Das sogenannte Theseion*, pp. 57 f.

<sup>2</sup> Cf. *Compte rendu*, 1859, Pl. I, below at the right.

<sup>3</sup> Other groups, to be sure, were, as has been seen above, fastened with only one dowel. But the two figures of the group in question might, because they were perhaps connected only at the bottom, have been fastened separately.

figure standing at the right might, to judge by the movement and clothing, be Athena. The kneeling girl would then presumably be Pandrosus, whom we may think of as ready to receive Erichthonius from Athena. The goddess would then be turned toward the right, as on the reliefs, not, as on the vase paintings, toward the left.

But it is possible also to think of her as turning toward the left. Then the order, from left to right, would be: 1, Gaea; 2, Athena; 3, Pandrosus; 4, Cecrops. This order has in its favor the fact that the distance between Gaea and Athena, which on the other assumption seems rather too small, would be greater. The group in Pl. 32, 27 could then, of course, not belong here. But in Pl. 32, 26, if it is correctly explained in the text, we have the remains of a similar group turned toward

Judging by the distance of the dowel holes in the block, the hole corresponding to hole 1 must have been in the kneeling figure not far above the break (0.21 m. above the ground line), and the hole in the standing figure must have been (as elsewhere in standing figures) in the back (0.42 m. above the ground line).

"The top of the epistyle being broken away under No. III, 1 and 2, it is impossible to confirm or reject the suggested placing of 32, 27 here, as might probably have been done were the epistyle preserved, since the plug hole in the bottom of 32, 27 would have to find a corresponding hole which would let the two figures reach the dowels 1 and 2 suitably." — B. H. HILL.

In the text to *Ant. Denk.* II, Pl. 32, 27, I have called the hole in the under side (like other holes of the same kind in other figures) modern, believing that it served to fasten the figure upon a base, perhaps immediately after its discovery. Mr. Hill thinks these holes, with the pins, or plugs, in them and the remnants of lead, are ancient. He writes: "My present opinion is that the iron pins run with lead in the bottom of certain figures of the frieze are not modern, and that they once actually served to hold the figures to the top of the epistyle. Whether they are *original*, or belong to ancient repairs, I should hesitate yet to say. Some of the fragments in which we find the pins are (now at least) altogether too insignificant to make this painstaking method of setting them up for exhibition at all likely. The pin in 31, 17 was certainly placed long before the figure was set in the plaster pedestal in which it stood until a few years since. In 32, 27 a bit of the pin still remaining deep in the hole is badly rotted (not rusted) in a degree paralleled in many ancient dowels and clamps, but hardly possible to iron a century or less old. The pins in the figures correspond in size and character with those preserved in the top of the epistyle. Most of the fragments preserved having the pins or holes for them belong to the north portico, while a majority of those without pins are on the smaller scale of the main building. This corresponds perfectly with the fact that the epistyle of the main building, so far as preserved, has very few pins, while that of the north portico has many." In view of these considerations, I also now find it difficult to believe all the pins modern.

the left (at any rate, the remains of a kneeling figure turned toward the left) which might belong here. The distance between holes 2 and 3 would do for two figures placed close together, after the manner of Pl. 32, 27, each of which was fastened in the back. Cecrops would then remain in the same place.

To right and left of this group (if the assumption of a dowel hole in the right-hand edge of block II is correct)<sup>1</sup> there would have been two seated figures, the one at the left presumably turning toward the right, the other in the opposite direction. Toward the sides would then be the other spectators, probably for the most part goddesses, those at the right standing, with one exception, and those at the left standing and seated.

Among the figures now existing, Pl. 31, 16, in which the dowel hole is about 0.49 m. above the ground line, may have belonged to this circle of spectators and may have had its place on block IV at hole 3 or 7 (from the left); so, too, Pl. 31, 18, in which the dowel hole was about 0.42 m. from the bottom, may have been on I, 3, and Pl. 31, 19, with its dowel hole at a height of 0.46 m.-0.47 m., on I, 4 or II, 1 or IV, 1, 4, 6. Perhaps Pl. 32, 16 belonged also to this side of the north porch, in the scene of the birth of Erichthonius assumed for the middle. I formerly regarded this fragment as the upper part of the body of a figure clad in chiton and himation (see text to *Ant. Denk.* II, Pl. 32, 16); but what then appeared to me to be the remnant of the himation now looks to me more like a cloth held by two corners;<sup>2</sup> and the lack of any indication of the breasts speaks against the interpretation as the upper part of the torso of a woman. I am therefore now inclined to believe that the fragment represents the middle part of a woman who is holding a cloth spread out, as Athena does in various representations of the birth of Erichthonius.<sup>3</sup>

<sup>1</sup> "Dowel hole in right edge of No. II seems sure." — B. H. HILL.

<sup>2</sup> Cf. the cloth held by two female figures on the so-called Ludovisi throne.

<sup>3</sup> See, e.g., *Mon. dell' Ist.* III, pl. XXX; Gerhard, *Auserl. Vasenb.* I, pl. CLI; *Jb. Arch. I.* XI, 1896, p. 189, 33 a. An Ionic chiton with kolpos hanging far down is worn by Athena in the scene of the birth of Erichthonius on the clyx in Berlin, *Mon. dell' Ist.* X, pl. XXXVIII.

The blocks of the frieze of the **North (Front) Side** of the north porch, in so far as they had not remained *in situ*, have now been restored and arranged, on the basis of the indications furnished by the dowel holes, as they are shown in *Ant. Denk.* II, Pl. 34. To complete the block at the right end the fragment shown directly above it on Pl. 34 seems to have been employed; in this a dowel hole at a height of 0.315 m. is preserved in the broken edge. Then between these two pieces another fragment, also apparently ancient, has been inserted (see above, p. 193, n. 1). If this is correct, there would be only two dowel holes in this block. The gap between blocks VI and VIII has been filled with a new block of marble. According to Inwood's drawing (*The Erechtheion*, pl. 3; *Ant. Denk.* II, Pl. 34), the largest of the separate fragments may have had its place here.<sup>1</sup> The two dowel holes existing in this, 0.475 m. and 0.335 m. from the bottom, would correspond to holes 5 and 6 (counting from the left) in Inwood's drawing, which, however, does not give the dowel holes quite exactly.

However this may be, the other dowel holes show by their arrangement and position clearly enough that on this side lively scenes were represented, with figures standing far apart or reaching far out in their movements. On account of the great distances between the dowel holes, one is at first inclined to think that the teams galloping to left had their place here. Of these, as we have seen above, three four-horse teams, or two four-horse teams and one pair of horses, are partially preserved. But apart from the fact that on the west side, as is proved by block VIII (which is, according to Mr. Hill, in its proper place) and by Inwood's drawing, the distances seem to have been in part even greater, various circumstances indicate that on the north side other scenes were represented. In the first place, the irregular arrangement of the dowel holes in the blocks is remarkable. Great intervals alternate with small ones, high with low position, oblique with upright direction. The frequent occurrence of small, square holes, especially in blocks IX and X, is also noticeable. This arrangement of the dowel holes presents a picture very different from that of the

<sup>1</sup> In the restoration of the building this seems to have been used on the south side (see above, p. 193, n. 1).

east side of the north porch and also from that of the east front of the cella; for in both of these a great number of quiet spectators seems to have been present, whereas on the north side of the north porch several events with figures in lively motion and with few spectators appear to have been represented.

Now among the fragments reproduced in *Ant. Denk.* II, Pls. 31 and 32, in addition to the quietly standing and seated figures, a great part of which should doubtless be assigned to the east side of the north porch, there is a series of figures in lively motion, namely, as we have seen above, three dancing and at least six running figures. The three dancing figures (Pl. 31, 5 and 6, Pl. 32, 13) may have represented the daughters of Cecrops, Pandrosus, Aglaurus, and Herse; they may also (like Pl. 33, 18 and 19) be interpreted as Charites or Horae. The running maidens call to mind the representation of the birth of Erichtheus on the cylix in Berlin (Furtw. 2537; *Mon. dell' Ist.* X, pl. XXXVIII). Here three maidens, two of them running, are hastening up, and the inscriptions inform us that Pandrosus, Aglaurus, and Herse are intended. The number of the fragments permits the conclusion that this triad occurred — leaving the three dancing figures out of consideration — at least once more in the frieze of the Erechtheum. Now the arrangement of the dowel holes on the east side of the north porch shows that not more than two of the figures standing in bent posture or kneeling (Pl. 31, 15; <sup>1</sup> Pl. 32, 26, 27, 28) belonged to the scene of the birth of Erichthonius; it seems, therefore, pretty certain that the care of Erichthonius and the events connected therewith furnished the content of the remaining representations. The running maidens and the great intervals between the dowel holes would be appropriate in the scene in which the three daughters of Cecrops hasten away, terrified by the appearance of the serpent which rises out of the basket of Erichthonius that they have sinfully opened.<sup>2</sup>

Among the existing fragments there are two which neither

<sup>1</sup> The fragment (which has now disappeared) published in 'Εφ. Ἀρχ. 1837, pl. 16, No. 41, may have formed the lower part of this figure. If that is not the case, still another figure standing in bent posture must be assumed.

<sup>2</sup> *Ann. dell' Ist.* 1879, Tav. d' agg. F; *Jb. Arch. I.* XI, 1896, p. 190, 33 b; see also Sauer, *Das sogenannte Theseion*, pp. 64 ff.

fit into the circle of spectators nor correspond with the figures seen in the representations of the birth of Erichthonius and the crime of the daughters of Cecrops. These are the woman rising from her chair (Pl. 31, 17) and the woman of the newly added fragment, who stands beside a chair. The two chairs are of the same height and both have arms. The support of the arm of the chair, which is preserved at the right side of Pl. 31, 17, has the form of a crouching sphinx, and the corresponding remnant at the left side of the new chair may have been part of a support of the same kind. The decoration of the two seats, which makes them appear more magnificent than the others that are seen in the frieze, justifies the assumption that they were intended for two especially distinguished persons who were of nearly equal importance. Schöne (*l.c.* p. 12) thought, rightly, in my opinion, of Athena in connection with Pl. 31, 17. He conjectures further that the stiff posture and the parallel arrangement of the legs indicate dependence upon an archaic prototype. This I do not consider impossible, but I believe that the apparent stiffness is conditioned not only by the dependence upon an earlier prototype, but also by the action of the figure. For this figure is not, as Schöne assumes, seated, but is in the act of rising. This view is supported by the fact that the point where the thighs divide corresponds in height with the same point in the standing figures, and moreover the figure seems to have been raising herself (or holding herself up) by the right arm which presses upon the arm of the chair. No trace of the left arm is seen on the left thigh. This arm then did not lie along the body, but was extended to the side or raised. The woman of the new fragment, as has been observed above, is laying a large cushion on the chair and is pressing it down between the arms. The chair is already covered with a cloth. The woman is then preparing a seat, much as a maenad lays a cushion on a chair, likewise covered with a cloth, on the back of the crater in St. Petersburg with the Judgment of Paris (*Compte rendu*, 1861, Atlas, pl. IV, Text, pp. 53 ff.), or as a maiden prepares a seat in the Attic sepulchral relief, *Att. Grab-reliefs*, 881, pl. CLXVIII. On the vase in St. Petersburg the place of the action is determined by the omphalos and the tripod; the seat appears to be prepared for Apollo, whom Diony-



sus is welcoming as his *πάρεδρος* at Delphi.<sup>1</sup> The sepulchral relief is regarded by A. Brückner, to whom I owe the reference to this parallel, as the right half of a large high relief after the fashion of the monument of Demetria and Pamphile. Herein he disagrees with Conze, who assumes no continuation of the relief toward the left (from the spectator's point of view) of the standing maiden. Brückner, following numerous analogies, restores the maiden by giving her a doll in her right hand and letting her (as in *Glyptothèque Ny Carlsberg*, 1907, No. 198) appear with it as a sort of votive offering before Persephone or some other figure (deceased relative) seated upon a throne. This figure receives her *ἐν νεπτέροις* as her *πάρεδρος*, and therefore has the seat prepared for her.

In view of these parallels, it appears to me not doubtful that in our case Athena is having a seat prepared for her *συνέστιος* or *πάρεδρος*, who is called in literature sometimes Erichthonius and sometimes Erechtheus.<sup>2</sup> The only question is whether the one who shared the temple with the goddess was represented as a child or a grown man. The size and softness of the cushion that is being pressed down between the arms of the chair favor the first supposition;<sup>3</sup> the scene must then probably have been represented on the right half of the north side in connection with the crime of the daughters of Cecrops. In the other case it might also have been on the west side.

On the **West Side**, if our previous conclusions are correct, the galloping teams of horses must find their place. Since two of these were four-horse teams (Pl. 34, 12 and 13), it is highly probable that the newly added pair of horses formed part of a four-horse team. Each of the three teams requires a space of about 1.50 m., the three together about 4.50 m. The entire

<sup>1</sup> See *Arch. Zeitg.* 1806, pp. 190 ff.; also 1865, pp. 98 ff.

<sup>2</sup> Erichthonius *συνέστιος*, see *Anthol. Gr.* Jac. app. epigr. 50; Erechtheus *πάρεδρος*, see Aristides, VIII (*Panathenaicus*), p. 170 D (107, 4 ff.), and schol. on 107, 5 and 6. *Ibid.* p. 193 D (119, 10 ff.), 'Ερεχθέα δὲ τοῖς ἐν ἀκροπόλει θεοῖς *πάρεδρον* ἀποδείξασα. Schol. 119. 12, *πάρεδρον*] ἀντὶ τοῦ *ιερέα*· *δεινῶς* δὲ εἶπε *πάρεδρον* οἰοῦντι *συγκαθήμενον*. D.

<sup>3</sup> Representations of the infant Heracles on a crib covered with cloths and cushions (? the representation is not perfectly clear; a large, wadded quilt might also be intended), see *Mon. dell' Ist.* XI, Tav. XLII; similar is the representation of Hermes as a child in swaddling clothes, *Mem. dell' Ist.* I, ii, pl. 15.



available space on the west side measures 7.41 m. There remains therefore a space of not quite 3 m. for other figures. Now according to the calculation presented above, each figure occupied on an average one Attic foot; there would then have been on the west side, in addition to the three teams, about nine figures—assuming that there was not by any chance another team of horses. Therefore another separate scene cannot well have been represented here. Unfortunately no conclusions as to the arrangement of the teams can be drawn from the dowel holes, because too little of the blocks of the frieze remains. Inwood's drawings (*Ant. Denk.* II, Pl. 34), as is seen by comparison with the existing blocks of the east side, cannot be trusted;<sup>1</sup> and I must, unfortunately, confess that I can establish no clear connection between the holes in the top of the epistyle and the dowel holes in the blocks of the frieze. The holes in the epistyle are arranged at very various intervals, sometimes within and sometimes outside of the traces left by the figures of the frieze. Only one thing appears to result from the comparison of the east side and the north side of the north porch; namely, that the holes did not serve, or served only in exceptional cases, for the fastening of quietly standing or seated figures. In agreement with this observation, we find that the holes in the under surface of the existing fragments (in regard to which I am not sure that they are all ancient) are found five times in the case of running figures (Pl. 31, 3; Pl. 32, 26, 27, 30; Pl. 34, 3), but only once each in a quietly standing (Pl. 31, 19) and a seated (Pl. 33, 21) figure. No holes are found in Pl. 31, 13, 16; Pl. 32, 12, 13, 14, 15, 20, 32; Pl. 33, 5, 15, 16, 20, 22, 23, 25, 26; Pl. 34, 1, 2, 6, 7; that is, in 20 fragments in all, fifteen of which are quietly standing or seated. In the case of six figures it is unfortunately uncertain whether they were fastened at the bottom, because their lower surfaces are now set in plaster. These are: Pl. 31, 6, 10, 11, 12, 17 and Pl. 34, 9.

If, then, only figures in active motion or large objects or

<sup>1</sup> However, I will not fail to mention that the two first holes from the left correspond with those in block XI, the great gap at the left of the middle with block XIII, and the two holes 11 and 12 (from the left) correspond in height and in the position where they are placed with the block which was, according to my conjecture (see above, p. 193, note 1), inserted here in the reconstruction.

perhaps attributes were attached by special fastenings to the epistyle, the collection of holes in the epistyle of the west side agrees well with the theory that this is the place where the teams were. It is worth mentioning also that Bötticher<sup>1</sup> states that the drill holes in the under surfaces of the fragments, by which they were set on the pins fastened for the purpose in the top of the epistyle, were especially well preserved in the fragments of wagons and horses. In the fragments now known no such holes are preserved, with the exception of one in the left hinder part of the hindmost horse on Pl. 34, 13; we must, therefore, since there is no reason to doubt Bötticher's statement, assume (with Schöne, *Griech. Reliefs*, p. 8) that the fragments have been further mutilated since their discovery. In any case, the relatively regular arrangement of the holes on the right side of the epistyle of the west side agrees well with the teams of horses, which probably differed little from one another.

We may, then, assume with some certainty that a chariot race of four-horse chariots was represented on the west side. If this is correct, we may, in view of the scenes on the east and north sides, conjecture further that Erichthonius played the chief part here also, doubtless as the hero who is said to have been the first to harness a team of four horses and to have founded the chariot races of the Panathenaea.<sup>2</sup>

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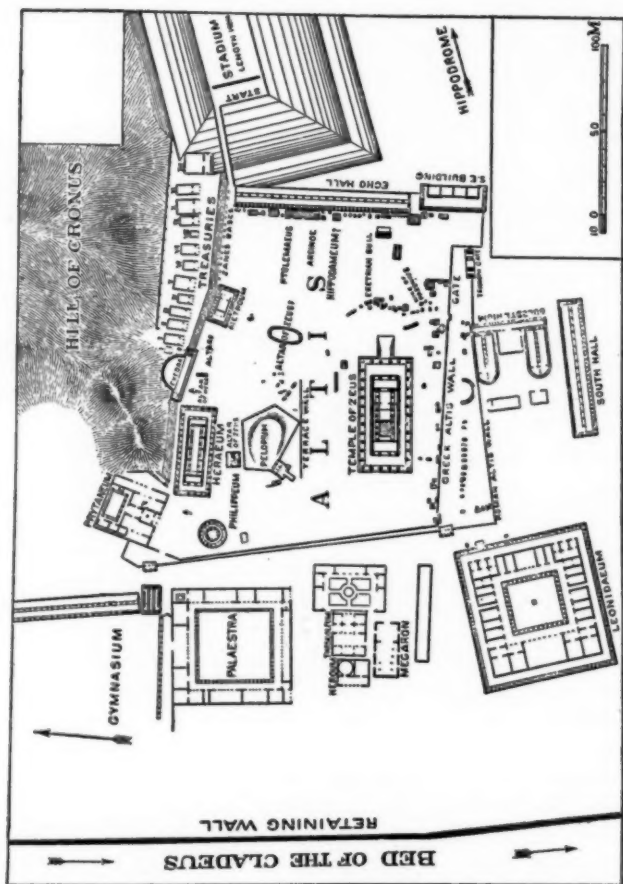
<sup>1</sup> *Untersuchungen auf der Akropolis von Athen im Frühjahr 1862*, p. 194, "Besonders an Fragmenten von Wagen und Pferdegespannen" waren "die Bohrlöcher unter dem Fussende wohl erhalten, mit welchen sie in (*sic*, auf?) die verticalen Stifte eingesetzt standen, die sich zu diesem Zwecke auf der Oberkante des Epistylions befanden."

<sup>2</sup> Aristides, II (*Athena*), p. 18 D (12, 8 ff.) and *passim* (Preller-Robert, *l.c.* p. 217, n. 4).

## THE POSITIONS OF VICTOR STATUES AT OLYMPIA

I. STATUES MENTIONED BY PAUSANIAS. — Pausanias is our chief source of information concerning the statues set up in honor of victors at Olympia. After describing the "votive offerings" at the end of Book V, he begins the enumeration of the monuments of "race horses . . . and athletes and private individuals."<sup>1</sup> This description falls into two routes (*ἐφοδοί*), the first containing the statues of 169 victors and the second those of 19. Both accounts also mention many monuments erected in honor of private persons. The first route begins with the Heraeum in the northwestern part of the sacred enclosure; the second begins — manifestly where the first ends — with the Leonidaeum at the southwestern corner, and extends to the great altar of Zeus near the centre of the Altis. Besides these meagre indications of his routes furnished by Pausanias himself, we are fortunate in knowing accurately the position of one statue, that of Telemachus, the 122nd victor mentioned, whose base still stands in its original position near the south wall of the Altis, a little southeast of the temple of Zeus, showing that the route passed before the eastern front of this temple and then westward to the Leonidaeum. With these data, and with the help of some forty inscribed bases of statues and other monuments mentioned by Pausanias, many of which were found near their original positions, it is possible to trace yet more definitely his routes. And so several attempts have been made since the German excavations to define topographically the position of these statues, especially

<sup>1</sup> *ἱππων ἀγωνιστῶν . . . καὶ ἀνδρῶν ἀθλητῶν τε καὶ ἰδιωτῶν ὅμοιος* (VI, 1, 1).

FIGURE 1.—THE ALTIS AT OLYMPIA (after Luckenbach, *Olympia und Delphi*).

by Hirschfeld,<sup>1</sup> Scherer,<sup>2</sup> Flasch,<sup>3</sup> Dörfeld,<sup>4</sup> and the present writer.<sup>5</sup>

<sup>1</sup> *Arch. Zeit.* XL, 1882, pp. 119 f.

<sup>2</sup> *De Olympionicarum Statuis* (Dissert. Berol. 1885), pp. 45 f.

<sup>3</sup> In Baumeister's *Denkmäler*, II, pp. 1094 f.

<sup>4</sup> *Ath. Mitt.* XIII, 1888, pp. 335 f., and *Olympia, Ergebnisse*, Textbd. I, pp. 87 f.

<sup>5</sup> *De Olympionicarum Statuis a Pausania commemoratis* (Halle, 1903), pp. 63 f. The outline therein forms the basis of this part of the present paper.

The position of several inscribed base fragments of statues corresponding to Pausanias' order of presentation, should alone be sufficient to confute the doubts raised by some<sup>1</sup> that these routes through the Altis were not topographical. But in any attempt to reconstruct them, we must constantly be on our guard against assuming that Pausanias describes a continuous line or row of monuments, as both Hirschfeld and Scherer thought. Though here and there this may have been true, still, generally speaking, we must conceive of these statues as strewn about the Altis in no further order than that they stood in groups and that these groups had only a general direction. For we shall see that Pausanias sometimes returns to the same spot without mentioning it, and often leaves long spaces unnoticed. Apart from the indication of such groups in the description itself, as attested by the use of such words as *παρά, ἐφεξῆς, πλησίον, ἀνάκειται ἐπὶ, ἐγγύτατα, ὀπισθεν, μεταξύ, κ.τ.λ.*, I have already shown in my previous work that it is possible to reconstruct many other groups, for abundant proof is there given that statues of nearly contemporaneous victors were often grouped together, as were those of the same family or state, or those victorious in the same contest or whose statues were made by the same artist.<sup>2</sup> So, in general, we can only group certain statues in belts or "zones" around some building or monument which is still *in situ*. Further than this we can seldom go. Gurlitt has thus well expressed the difficulty of following these routes of Pausanias: "Jede folgende Statue ist nach der vorhergehenden orientirt zu denken. . . . Beziehungen auf früher oder später erwähnte Monumente waren überflüssig . . . wir sind . . . auf wenige Fixpunkte angewiesen und verfallen daher leicht in den Fehler, die Wegrichtungen in den Plan zu schematisch einzuzeichnen. . . . Das hin und

The numbers of victors from the catalogue of that work, showing the order of presentation of Pausanias, are retained in this paper: *e.g.* Telemachus (122). A letter after the number indicates either an adjacent "honor" statue, *e.g.* Philonides (154 a), stood next to Menalceas (154), or no statue.

<sup>1</sup> *E.g.* Kalkmann, *Pausanias der Perieget* (1886), p. 88.

<sup>2</sup> *E.g.* nos. 1, 3, 4, 5, 6 were Eleans; 7-14 Spartans; 48-49 Arcadians; 6-9 and 11-14 were victors in chariot races; 30, 34, 37, 40 were pancratiasts; 26-28 had statues by Sicyonian artists, 39-40 by Athenian; 59-63 formed a family group; etc.

her auf den viel verschlungenen Wegen der Altis können wir nicht mehr kontrollieren."<sup>1</sup> In his description of the scattered altars (V, 14, 4-15, 12), Pausanias had not the same difficult problem to meet as in that of the victor statues. As there was so little continuity in describing the altars, he had to introduce many other monuments to make their location known; but in the case of the victor statues there was great continuity, and so such indications were superfluous.<sup>2</sup> And, in general, owing to the number and variety of monuments huddled together in the circumscribed area of the Altis, he was not compelled to describe Olympia with such definite detail as Athens or Delphi. That these victor statues, however, are described in topographical order, is attested by the internal evidence of Pausanias' words,<sup>3</sup> and also by the finding of many of their bases in order. With this introductory warning, let us take up the routes of Pausanias in detail.

He begins his enumeration in the northeastern part of the Altis, ἐν δεξιᾷ τοῦ ναοῦ τῆς Ἥρας,<sup>4</sup> words which have been the subject of much discussion, as to whether they are to be understood of the temple "pro persona," i.e. the southern side,<sup>5</sup> or of the viewpoint of one facing it, i.e. the space (especially the northern or right hand half) before the eastern front.<sup>6</sup> From the immediate whereabouts of Pausanias we get no clue; for at the end of Book V (27, 11), he says he is in the middle of the Altis, and yet in the following paragraph (27, 12) — evidently added as a transition from the account of the Altars to that of the Victors — he mentions the trophy of the Mendaeans, which

<sup>1</sup> *Über Pausanias* (1890), p. 393.

<sup>2</sup> The lack of continuity in describing the altars led R. Heberdey, *Eranos Vindobonensis*, 1893, pp. 30 f. ('Die Olympische Altarperiegese des Pausanias'), to conclude wrongly that Pausanias took over bodily from an earlier work his enumeration of the altars, only here and there interposing a remark of his own, as e.g. V, 15, 2, where he parenthetically describes the Leonidaemum.

<sup>3</sup> E.g. the statue of the Acarnanian boxer (10) stood among those of Spartan victors (7-14); Euclēs (52), a grandson of Diagoras, had his statue away from his family group (59-63); the two statues of Timon (17 and 105 d) stood in different parts of the Altis.

<sup>4</sup> VI, 1, 3.

<sup>5</sup> So Furtwängler, *Arch. Zeit.* 1879, p. 146; Treu, *ibid.* p. 207; Flasch, Hirschfeld, and Scherer in the articles already cited.

<sup>6</sup> So Dörpfeld, *l.c.*, p. 88; Michaelis, *Arch. Zeit.* 1876, p. 164, Blümner, *Berl. Phil. Woch.* 1904, col. 1382, and *Pausaniae Graeciae Descriptio*, II, 2, p. 531.

he says he nearly mistook for the statue of the pancratiast Anauchidas (131), which we shall see stood near the south wall of the Altis far from the centre. So Dörpfeld's contention that Pausanias approached the Heraeum from this point, and that consequently the words *ἐν δεξιᾷ* must refer to its eastern front, is untenable, and we are left dependent on the meaning of these words as gathered from other passages in Pausanias' work. An examination of several such passages has convinced me that they are used here of the Heraeum "pro persona."<sup>1</sup> Furthermore, the finding of the inscribed tablet from the base of the statue of Troilus (6), and the pedestal of that of Cynisca (7) in the ruins of the Prytaneum, not far from the western end of the Heraeum, and the base of that of Sophius (22) in the bed of the Cladeus still further west, makes it reasonable to conclude that the first few statues mentioned (VI, 1, 3-3, 7), those of the Spartan group (Cynisca-Lichas, 7-14), all of the fifth century, flanked on either side by statues of the fourth, mostly of Eleans (Symmachus-Troilus, 1-6 and Timosthenes-Eupolemus, 15-28) originally stood in the order named by Pausanias along the southern front of the temple.<sup>2</sup>

<sup>1</sup> *Op. cit.* p. 64 and *A.J.A.* XI, 1907, No. 4, p. 408, note 3. I here append three such passages: In V, 24, 3, in speaking of the statue of the Zeus of the Lacedaemonians, he says it stood "*τοῦ ναοῦ δὲ ἐστὶν ἐν δεξιᾷ τοῦ μεγάλου Zeus πρὸς ἀνατολὰς ἡλίου*," i.e. southeast corner of the temple near where the pedestal was found (cf. *Inscr. v. Ol.* 252 and *Olympia. Ergeb.* Textbd. I, 86); in V, 26, 2, in speaking of the offerings of Micynthus, he says they stood "*παρὰ δὲ τοῦ ναοῦ τοῦ μεγάλου τὴν ἐν ἀριστερᾷ πλευρᾷ*, i.e. on the northern side of the temple of Zeus, where most authorities find their foundation (cf. *Inscr. v. Ol.* 267-269 and *Flasch, op. cit.* p. 1093): in VIII, 38, 2 he says Mt. Lycosura is *ἐν ἀριστερᾷ τοῦ ἱεροῦ τῆς Δεσποίνης*, i.e. to the north of that temple.

If he had meant the eastern front of the Heraeum, he would have said *ἀντικρὺ τοῦ ναοῦ* (cf. V, 27, 1) or *κατὰ τὸν ναόν* (cf. V, 15, 3).

<sup>2</sup> See *Inscr. v. Ol.* Nos. 166 (Troilus), 160 (Cynisca), 172 (Sophius). Because of the finds in the Prytaneum, both Hirschfeld and Scherer started this *ἑφοδος* west of the Heraeum.

The unfinished condition of the back of the Lysippean marble head which I have ascribed (*A.J.A.* XI, 4, pp. 396 f.) to the Acarnanian boxer (10), whose name I have restored as Philandridas, and which was also found in this vicinity — between the Prytaneum and the Gymnasium (see *Ol. Ergeb.* Textbd. III, p. 209) — as well as its excellent preservation, show it once stood in a sheltered place against a solid background and so perhaps against one of the temple columns. From this it might be concluded that some of these statues adorned the southern steps of the Heraeum.



Leaving the Heraeum we get no further fixed point until we arrive opposite the eastern front of the temple of Zeus. For here around the foundation of the Eretrian Bull—still *in situ* 32 m. east of the northeastern corner of the temple<sup>1</sup>—have been found the fragments of the pedestals of the statues of Narycidas (49) and Hellanicus (65) to the south, of Callias (50) and Eucles (52) beneath that of Callias, to the north, of Euthymus (56) and Charmides (58) close together to the east.<sup>2</sup> So it is clear that the series of statues from Narycidas to Charmides (49–58, VI, 6, 1–7, 1) stood in this neighborhood. Now the statues of the family of Diagoras, the Rhodian athlete (59–63), stood together, as Pausanias says (VI, 7, 1–2); one of them, that of Eucles (52), seems to have been moved from its original position later, as we see from the scholiast on Pindar's seventh Olympian ode,<sup>3</sup> who on the authority of the lost works of Aristotle and Apollas on the Olympic victors,<sup>4</sup> enumerates these statues in an order different from that adopted by Pausanias, showing that a change in their positions must have taken place sometime between the time of Aristotle and that of the periegete.<sup>5</sup> The statues of Alcaenetus and his son, Hellanicus (64–65), must also have stood together. Inasmuch as the victors from Euthymus to Lycinus (56–68) are, with one exception, all

<sup>1</sup> See *Inscr. v. Ol.* No. 248; cf. V, 27. 9.

<sup>2</sup> See *Inscr. v. Ol.* Nos. 161 (Narycidas); 146 (Callias); 159 (Eucles); 144 (Euthymus); 156 (Charmides); 155 (Hellanicus). Other bases of statues which must have stood in this vicinity have also been found, far from their original positions; i.e. those of Athenaeus (36), 56 m. west of the Leonidaeum; of Polydamas (47), fragments 26 m. southeast of the Echo-hall; of Diagoras (59), five fragments near the Metroon; of Damagetus (62) in the Leonidaeum; of Dorieus (61) near the Victory of Paenionius; of Cyniscus (45) inside the Byzantine church; of Damoxenidas (54) near the Heraeum. See *Inscr. v. Ol.* Nos. 168 (Athenaeus), 151 (Diagoras), 152 (Damagetus), 153 (Dorieus), 149 (Cyniscus), 158 (Damoxenidas); for the sculptured base of Polydamas, see *Ol. Ergeb.* Tafelbd. III, pl. LV, 1–3.

<sup>3</sup> p. 158, ed. Böckh.

<sup>4</sup> Aristotle's work is mentioned by Diogenes Laertius, V, 26; cf. *F.H.G.* (ed. Müller), II, p. 183; fragm. 264 Apollas is almost unknown; cf. *F.H.G.* IV, p. 307, fragm. 7; he probably copied from Aristotle.

<sup>5</sup> This is Dittenberger's explanation (*Inscr. v. Ol.* 151), and also that of Robert (*Hermes*, XXXV, p. 195), Scherer, *op. cit.* p. 49 and Gurlitt, *op. cit.* p. 411; Purgold, however (*Inscr. v. Ol.* p. 262), has tried to reconcile the two accounts on the theory of no change.



pugilists and of the fifth century, they must have been grouped together, with the family groups of Diagoras and Alcaenetus in the centre.<sup>1</sup> We may also add the statues of Dromeus and Pythocles<sup>2</sup> (69-70) of nearly the same date, and we can also extend the group in the other direction. For the same scholiast says the statue of Diagoras stood near that of Lysander (35 a).<sup>3</sup> Pausanias (VI, 3, 14 and 4, 1) says the statue of Lysander stood between those of Pyrilampes and Athenaeus (35-36). Thus we can conclude that the 36 statues (35-70, VI, 3, 13-7, 10) stood in the zone of the Eretrian Bull, extending perhaps across the Altis to the vicinity of the Echo Colonnade along its eastern boundary.

It would follow then that the intervening statues from Oebotas to Xenophon (29-34, VI, 3, 8-3, 13) stood somewhere between the Heraeum and the Eretrian Bull. It is idle to discuss the route between these two monuments more definitely.<sup>4</sup>

Our next fixed point is the Victory of Paenonius, whose foundation is still standing in its original position, 37 m. due east of the southeast corner of the temple of Zeus.<sup>5</sup> For, of the next few statues mentioned, the base of that of Sosicrates (71) was found "somewhere" east of the temple, that of Critodamus (80) before the Southeast Building, and that of Xenocles (85),

<sup>1</sup> However, Kalkmann, *op. cit.* p. 90, thinks the two groups of Diagoras and Alcaenetus stood apart.

<sup>2</sup> The base of the statue of Pythocles was found between the Heraeum and the Pelopium. See *Inscr. v. Ol.* 162-163.

<sup>3</sup> Gurlitt (*op. cit.* p. 412) assumed the possibility of the existence of two different statues of Lysander, one 35 a and the other somewhere after Charmides (58) in the family group of Diagoras; Kalkmann (*op. cit.* p. 105, note 4) explains the discrepancy between the scholiast and Pausanias on the theory that the latter borrowed from older lists; Purgold, *Aufsätze E. Curtius gewidmet*, p. 238, assumed but one.

<sup>4</sup> Scherer, *op. cit.* p. 51 (cf. plan opposite p. 56) and Flasch, *loc. cit.* p. 1095, note 1, proposed a route south from the Heraeum to the west of the so-called Great Altar of Zeus, while Hirschfeld, *l.c.* p. 119, made it run to the east of it. Dörpfeld, *Topog. von Ol.* i, 88, starting east of the Heraeum, made it run first to the west along the south side of the temple and thence around the western side of the Pelopium and so across to the Eretrian Bull; Michaelis, *l.c.* p. 164, with the same starting point, had it bear first to the east parallel with the Treasury Terrace, and thence south.

<sup>5</sup> See *Inscr. v. Ol.* No. 259 and *Ol. Ergeb.* Textbd. 2, p. 153-155, etc.; cf. V, 26, 1.

4 m. to the northeast of the Victory base, presumably near its original position.<sup>1</sup> Pausanias groups the three Arcadian athletes, Euthymenes-Critodamus (78-80, VI, 8, 5), then, after naming four statues of victors from other states, he mentions two more Arcadians together, Xenocles and Alcetus (85-86, VI, 9, 2), and continues by saying that the statues of the Argives Aristeus and Chimon (87-88, VI, 9, 3) stood together. One more statue, that of Philles of Elis (89), he names before he comes to the chariot of Gelo. Thus we may conclude that the series of statues denoted by the numbers 71-89 (VI, 8, 1-9, 4) stood to the south of the Eretrian Bull in the parallel zone of the Victory.

We next come to the series of statues mentioned between the chariots of Gelo and Cleosthenes (90-99). The position of the bases of these chariots is practically certain. In describing the statues of Zeus in Book V, Pausanias says he is proceeding north from the Council House (23, 1), and first mentions a statue of Zeus set up by the Plataeans; in describing the Victor statues he says the chariot of Cleosthenes stands behind this statue of Zeus (VI, 10, 6). After describing the Plataean Zeus, he mentions a bronze inscribed tablet as standing in front of it (V, 23, 4), and then says the statue of the Zeus of the Megarians stands near the chariot of Cleosthenes (23, 5). As he is proceeding north, this Megarian Zeus must have stood north of the Plataean one; thus in one group we have the two statues of Zeus and the chariot of Cleosthenes. Immediately to the north he next mentions the chariot of the Syracusan tyrant Gelo (90), which he says is near the statue of the Zeus of the Hyblaeans (23, 6). Now in coming south, in the athlete periegesis, he names eight statues between these chariots. Dörpfeld<sup>2</sup> has identified the Plataean Zeus with a large pedestal to

<sup>1</sup> See *Inscr. v. Ol.* Nos. 157 (So(s)icrates; for restoration of the name, see Hyde, p. 37); 167 (Critodamus); 164 (Xenocles). The plate from the pedestal of the statue of the unknown Arcadian victor (79) was found far away from this point, in the Palaestra; I have shown that the statue of Philip (79 a), mentioned by Pausanias as the work of Myron (cf. VI, 8, 5), was really that of this older unknown Arcadian, and was later used for Philip, who won Ol. 119-125; see *Inscr. v. Ol.* No. 174. Hyde, *op. cit.* pp. 39-41.

<sup>2</sup> See *Ol. Ergeb.* Textbd. I, p. 86, and cf. II, p. 78. A slit in the lower step of the base of the Zeus may have contained the tablet mentioned V, 23, 4. Three

the northwest of that of the victor Telemachus (122) *in situ* near the South Altis wall,<sup>1</sup> a position in harmony with the description of the statues of Zeus; just behind it he has identified two large foundations near together as those of the two chariots. So the eight intervening statues stood here. Of the statues between the chariot of Cleosthenes and the base of the statue of Telemachus, the base of that of Tellon (102) was found in the East Byzantine wall near the South Altis wall; that of Aristion (115) nearly embedded in the same wall; that of Acestorides (119), whose name I have inserted in the lacuna in the text of Pausanias (VI, 13, 7),<sup>2</sup> just northeast of the base of Telemachus.<sup>3</sup> Thus the series of statues from that of Gelo to

of the four inscribed blocks of Gelo's chariot base were found in the Palaestra, cf. *Inscr. v. Ol.* No. 143.

For Dörpfeld's identification of the Council House with the tripartite building south of the temple of Zeus just outside the South Altis wall, see *Ausgrab. zu Ol.* IV (1878-1879), pp. 40-46, and *Ol. Ergeb.* Text bd. II, pp. 76-79. Others, on the basis of a passage in Xenophon (*Hell.* VII, 4, 31), wrongly place it near the Prytaneum in the northwestern part of the Altis. Cf. Frazer, *Comm.* to Paus. III, p. 636 f., and Dörpfeld, *l.c.* p. 78 f.

<sup>1</sup> See *Inscr. v. Ol.* No. 177. It stands on the south edge of the South Terrace wall between its gateway and the later East Byzantine wall of the Altis.

<sup>2</sup> *Op. cit.* p. 49 f. where I assume that the passage VI, 13, 8 is a digression, and that the name of a victor has dropped out at the end of 13, 7. I have inserted the name of Acestorides of Alexandria Troas, placing his statue next to that of Agemachus (118) of similar date and the only other Asiatic in this part of the Altis. Förster, *Die Sieger in den olympischen Spielen*, No. 501, dates Acestorides wrongly in the second century B.C. (on the basis of Furtwängler, *Ath. Mitt.* 1880, p. 30, n. 2. end), though the inscription from the base is referred by Dittenberger to the end of the third; Agemachus won Ol. 147; I have therefore dated Acestorides tentatively between Ol. 142 and Ol. 144.

<sup>3</sup> See *Inscr. v. Ol.* Nos. 147, 148 (Tellon, inscription renewed in the first century B.C.); 165 (Aristion); 184 (Acestorides).

Röhl (*I. G. A.* No. 355 and Add. p. 182) referred an inscription on some marble fragments found in 1879 (cf. *Arch. Zeit.* 1879, p. 161), one found near the Heraeum, another east of the temple of Zeus, to the victor Agiadas (103); Dittenberger (cf. *Inscr. v. Ol.* No. 105) and others have rightly rejected it. Similarly the inscribed base of the statue of Areus (105 b), son of Acrotatus, King of Sparta, found in the Heraeum (see *Inscr. v. Ol.* No. 308), belongs rather to the second statue of Areus (148 a) dedicated by Ptolemy Philadelphus; cf. Hyde, *op. cit.* p. 44-45. I have also referred the second inscription of the artist Pythagoras (*Inscr. v. Ol.* No. 145), found in the Leonidaeanum, to the statue of Astylus (110), because of its similarity to that on the base of the statue of Euthymus (56), likewise by Pythagoras (pp. 47-48 = *Inscr. v. Olymp.* No. 144).

that of Agathimus (90-121 a, VI, 9, 4-13, 11) can be grouped in the zone of the Chariots.

As the fragment of the base of the statue of the Athenian pancratiast Aristophon (123) was found near the base of Telemachus, but to the east of it, and likewise that which supported the equestrian monument of Xenombrotus and Xenodiceus (133-134) still further to the east near the Echo Colonnade,<sup>1</sup> we can conclude that the twenty-one statues from Aristophon to Procles (123-138, VI, 13, 11-14, 13), mostly of the fifth century, stood near the South Altis wall to the east and not to the west of the base of Telemachus, where all other investigators have wrongly placed them,<sup>2</sup> and thus form a group which we can call the zone of Telemachus. So we see that the long list of statues from Pyrilampes to Procles (35-138), nearly two-thirds of all those mentioned in the first *ἔφεδος* of Pausanias, stood in the space to the east and southeast of the temple of Zeus, grouped around the parallel zones of the Bull, Victory, Chariots, and Telemachus.

On the other hand, the statues beginning with that of Aeschines (139) and extending to that of Philonides (154 a) (VI, 14, 13-16, 5) must have stood to the west of the base of Telemachus and along the South Terrace wall some 20 m. south of the temple of Zeus, where many of the following pedestals were found in the order named by Pausanias; that of Aeschines (139) was found near the Council House, that of Archippus (140) nearly between the Terrace wall and the north wing of the Council House; that of Epitherses (147), opposite the sixth column of the temple from the west, some eleven paces from the Terrace wall, and the fragment of the base of the honor statue of Antigonus (147 f.) very near it; the base of the statue of Caper (150) was found further on in the West Byzantine wall (which begins at the southwest corner of the temple); and lastly, the base of the "honor" statue of Philonides (154 a), Alexander's courier, was found in the southwest

<sup>1</sup> See *Inscr. v. Ol.* Nos. 169 (Aristophon), 154 (Xenombrotus and Xenodiceus), following Robert's ascription, *Hermes*, XXXV, p. 179 f.; a second epigram referring to Xenombrotus alone [*Inscr. v. Olymp.* No. 170] must belong to a second monument not mentioned by Pausanias; cf. Hyde, *op. cit.* p. 63).

<sup>2</sup> E.g. Furtwängler, *Arch. Zeit.* 1879, p. 140 (quoted by Dittenberger); Frazer, *op. cit.* IV, p. 43, etc.

corner of the Altis at the extreme west end of the South Terrace wall, almost, if not exactly, in its original position.<sup>1</sup> Thus Pausanias, after coming south to the statue of Telemachus, first goes eastward as far as the statue of Procles, then returns, repassing the two chariots on the way without remark, and then continues westward to the southwestern corner of the Altis. All these statues west of Telemachus are of the fifth and fourth centuries, with the exception of one, that of Eutelidas (148), who won in Ol. 38. This is the oldest statue in the Altis, despite Pausanias' statement,<sup>2</sup> and it doubtless originally stood in the area occupied toward the middle of the fifth century by the temple of Zeus, being then transferred to its new position south of the temple.

After the statue of Philonides, there are still nineteen statues to dispose of in this first *ἔφοδος*, those from Brimias to Glaucon (155-169, VI, 16, 5-16, 9). Of these statues, the base of that of Leonidas of Naxos (155 a), the founder of the great building just outside the southwestern corner of the Altis named after him, was found in a Byzantine wall before the eastern end of the north front of that building, while that of Seleadas (159) was found within the ruins of the same building; the base which supported the monuments of Polypithes and Calliteles (160-161) — which, owing to the early dates of their victories, Ols. 66(?)-70(?), must have stood originally in the area later occupied by the temple of Zeus, like that of the above-mentioned Eutelidas — a little to the south of the Byzantine church, between the bases of the statues of Leonidas and Glaucon; two fragments of the base of the statue of Dinosthenes (163), one east of the apse of the church, the other in the ruins of the Palaestra further north; and lastly, that of Glaucon, built into

<sup>1</sup> See *Inscr. v. Ol.* Nos. 176 (Aeschines); 173 (Archippus); 186 (Epitherses); 304 (Antigonos [a fragment of the base of the statue of Demetrius (147 e) was also found, the exact location not being recorded, cf. No. 305]); 276 (Philonides; a second mutilated copy of this inscription was found near by built into a late wall north of the Byzantine church; see No. 277); Pausanias (VI, 15, 10) mentions two statues of Caper; Furtwängler, *Bronzen von Ol.* Textb. IV, pp. 11-12, No. 3, 3 a, Taf. III, has assigned to one of them a bronze foot found near the South Altis wall.

<sup>2</sup> VI, 18, 7. He gives this honor to Praxidamas and Rhexibius (187-188), who won in Ols. 59 and 61 respectively. The statue of Oebotas (29), who won in Ol. 6, was, however, set up in Ol. 80 by the Achaeans (VI, 3, 8).

late walls northwest of the church.<sup>1</sup> As the statue of Philonides stood at the extreme western end of the South Altis wall, and as most of these fragments were found in the vicinity of the Leonidaem, it would be natural to conclude that the majority of these later statues stood in the spaces just outside the West Altis wall. But at the end of the first ἔφοδος (VI, 17, 1), Pausanias says he has so far named statues "within the Altis," and so most investigators have placed these nineteen statues either west of the temple of Zeus or in the space at the southwestern corner of the Altis. We shall see in the second part of this paper, that many other victor statues, not mentioned by Pausanias, stood just outside the West Altis wall. And it is doubtful whether these words of Pausanias, "ἐν τῇ Ἀλτει" (VI, 17, 1), should be taken thus literally, especially on any theory of his use of earlier accounts in the final compiling of his own. If they did stand "within" the Altis, they could scarcely have stood to the west or southwest of the temple of Zeus, for the second ἔφοδος, as we shall see, passed there. A better alternative would be the following: In describing the Leonidaem (V, 15, 2), Pausanias says this building stood "outside the sacred enclosure at the processional entrance into the Altis . . . separated from this entrance by a street; for what the Athenians call lanes, the Eleans name streets."<sup>2</sup> Now Dörpfeld has shown that inside the West Altis wall and parallel to it — just south of the base of Philonides' statue — is a line of bases ending in the later South wall of the Altis, so that this

<sup>1</sup> See *Inscr. v. Ol.* Nos. 294 (Leonidas, cf. *Ath. Mitt.* XIII, p. 322, note 1, Treu); 183 (Seleadas; this is my own ascription; cf. *op. cit.* p. 58; Dittenberger wrongly restored the name as Σέλευκος); 632 (Polypithes and Calliteles); 171 (Dinosthenes); 178 (Glaucon; his monument was a little bronze chariot, not a statue, thus imitating earlier sixth century victor dedications, like that of Cynisca (7); No. 296 is another inscription from a statue of Glaucon dedicated by Ptolemy).

The pedestal of the statue of Paeanius (167) was found back of the south side of the Echo Colonnade, far removed (cf. No. 179); Pausanias again mentions Paeanius in VI, 15, 10. Another pedestal, found south of the west end of the Byzantine church (No. 632), has been referred by Purgold to the statue of Lysippus (162), cf. *Arch. Zeit.* 1881, p. 85 f. Blümner, *op. cit.* Vol. II, p. 615, and others have rejected the ascription.

<sup>2</sup> διέστηκε δὲ ἀγυιὰν ἀπὸ τῆς ἐσόδου τῆς πομπικῆς. τοὺς γὰρ δὴ ὑπὸ Ἀθηναίων καλούμενους στενωποὺς ἀγυῖαι ὀνομάζουσιν οἱ Ἑλεῖοι.

West wall and row of pedestals form a cul de sac.<sup>1</sup> It is clear that no such row of statues would have been placed leading up to a dead wall; therefore these statues must have stood there before the wall was built, and must once have formed the eastern boundary of a wide street skirting the eastern side of the Leonidaeum, which was twice as wide as later, when the wall cut off half its breadth and made it a lane, though the older name "street" was retained. The later Roman enlargement of the Altis is well known. The long row of pedestals to the south of and parallel with those already discussed as standing along the line of the South Terrace wall, westward of the base of Telemachus, once formed the southern boundary of the "Processional Way," which ran from the Leonidaeum to where it debouched into the Altis at its southeastern corner. Originally outside the Altis, they were later, together with the road itself, included in it. The pedestals, then, in the above-mentioned cul de sac, and also the fourteen (among them that of Metellus Macedonicus) that adorned the south side of the Processional Way, may be the remains of some of these last statues mentioned by Pausanias.

We next come to the second ἔφοδος introduced by these words: "εἰ δὲ ἀπὸ τοῦ Λεωνίδαίου πρὸς τὸν βωμὸν τὸν μέγαν ἀφικέσθαι τῇ δεξιᾷ θελήσεις, τοσάδε ἐστὶ σοι τῶν ἀνηκόντων ἐς μνήμην" (VI, 17, 1). The Leonidaeum, the site of which was still in dispute till after the close of the excavations, was finally identified by Treu,<sup>2</sup> with the so-called "Südwestbau," as had been

<sup>1</sup> See *Ath. Mitt.* 1888, pp. 327-336 ('Die Altis Mauer in Olympia'). On the west of the Altis are the ruins of two parallel walls, the inner Greek, the outer Roman; the original South wall of the Altis ran along the line of the South Terrace wall, the later Roman wall (dating from Nero's time) to the south of it. Thus in Pausanias' day, the πομπικὴ ἔσοδος was opposite the Leonidaeum. In two other passages, however, it is in the southeast corner of the Altis (V, 15, 7; VI, 20, 7). Heberdey (*op. cit.* pp. 34-47) explains this discrepancy by saying that Pausanias, in speaking of the southwestern entrance, is speaking from his own observation after the Roman extension, and in the other passages is copying from other writers who wrote before that extension. Dörpfeld's explanation, however, is better: in the Roman extension a gate was built in the southwest corner of the new west wall, superseding the older southeast entrance. Processions still passed along the same way, but were now inside the Altis, the great gateway of Nero at the southeast corner being given up after his death. Cf. Frazer, *op. cit.* III, pp. 570-572.

<sup>2</sup> *Ath. Mitt.* 1888, pp. 317-326 ('Die Bauinschrift des Leonidäums zu Olym-



already assumed by many investigators.<sup>1</sup> The site of the Great Altar, however, is still undetermined. The elliptical depression to the east of the Pelopium, whose dimensions (125 feet in circumference) agree with the figures of Pausanias (V, 13, 9) for the "prothuisis," or lowest stage of the Altar, identified with it by most scholars,<sup>2</sup> must now be given up, since the recent excavations of Dörpfeld, which prove it to be the remains of two prehistoric dwelling houses with apse-like ends.<sup>3</sup> Nor can the remains of walls lying between the Heraeum and the Pelopium, formerly supposed to be those of an altar,<sup>4</sup> any longer be referred to the Great Altar since Dörpfeld's discoveries. So we are dependent on the words of Pausanias alone for its location, who says it stood "equidistant from the Pelopium and the sanctuary of Hera, but in front of both,"<sup>5</sup> therefore, somewhat northwest of

pia'); and cf. *Inscr. v. Ol.* No. 651 and *Ol. Ergeb.* Textbd. II, pp. 83-93 (Borrmann).

<sup>1</sup> E.g. K. Lange, *Haus und Halle*, p. 331; Hirschfeld, *l.c.* p. 112 and p. 121; Flasch, *l.c.* pp. 1095 and 1104 K; others placed it elsewhere, e.g. Curtius-Adler, *Ol. und Umgegend*, pp. 23 sq.; Scherer, *op. cit.*, p. 55 f. (and plan) identified it with the Southeast Building, where he had this second *ἱερόδος* start (so also Flasch).

<sup>2</sup> Thus Curtius, *Altäre v. Ol.* p. 4 (= *Gesammelte Abhandlungen*, II. pp. 42 f.; Adler, *Arch. Anz.* 1894, p. 85; *ibid.* 1895, pp. 108 f. (cf. his reconstruction in *Ol. Ergeb.* Tafelbd. II, Pl. CXXXII and Textbd. II. pp. 210 f.); Curtius-Adler, *op. cit.* p. 35; Flasch, *l.c.* p. 1067 (cf. *Funde v. Ol.* pp. 238-239); Bötticher, *Olympia*<sup>2</sup>, p. 190 f. (Plan); Furtwängler, *Ol. Ergeb.* Textbd. IV (Bronzen), p. 4; Hirschfeld, *l.c.* p. 119 (= plan); Scherer, *op. cit.* p. 56 (with plan); Trendelenburg, *Das Grosse Altar des Zeus in Olympia*, pp. 17 f.; Dörpfeld, *Ol. Ergeb.* Textbd. II, p. 162 (cf. I, p. 82, where he admits the possibility that it may have stood further northwest, nearer the Heraeum).

<sup>3</sup> See *Ath. Mitt.* XXXIII (1908), pp. 185 sq., 'Olympia in prähistorischer Zeit'; cf. "Year's Work in Classical Studies," 1908, p. 12.

<sup>4</sup> Thus Puchstein, *Arch. Anz.* 1893, p. 22; *ibid.* 1895, p. 107; *Jb. Arch. I.* 1896, p. 53 f. (with "oblong" reconstruction by Koldewey, p. 76); *Woch. für. Class. Phil.* 1895, p. 475; and Wernicke, *Jb. Arch. I.* 1894, pp. 93 f. This view was already refuted by Adler, *Arch. Anz.* 1895, p. 108, and Dörpfeld, *Bauwerke v. Ol.* Textbd. II, pp. 162 f. Dörpfeld now refers these remains also to prehistoric houses (cf. note 3 above).

<sup>5</sup> V, 13, 8. Exact site of Pelopium is given in V, 13, 1. Wernicke (*l.c.* pp. 94 f.) placed the older altar of Zeus (who was at first worshipped in common with Hera) between the Heraeum and Pelopeum, as Puchstein had done. Later, however, after the building of the temple of Zeus, and the Pelopeum, the altar was moved east of both and stood somewhere northwest of the elliptical depression where Pausanias saw it. He explained the lack of remains on the theory



the elliptical depression nearer the centre of the Altis. Our problem, then, is to find Pausanias' route between these two points, and here again, as at the beginning of the first *ἔφοδος*, we must rightly interpret the words *ἐν δεξιᾷ*. Michaelis, in his paper on the use of *ἐν δεξιᾷ* and *ἐν ἀριστερᾷ* in Pausanias' work, made these words refer to the southern side of the Processional Way, *i.e.* to the side at the right of Pausanias, who was facing east after arriving at the Leonidaeum.<sup>1</sup> Thus the statues already mentioned along the South Terrace wall (Aeschines, 139 — Philonides, 154 a) would be on his left side. On this interpretation both Hirschfeld and Dörpfeld had the second *ἔφοδος* follow the Processional Way eastward parallel to the first—thus including the line of pedestals, which we have referred to the end of the second—and then, near the Council House, curve northward in front of the temple of Zeus, virtually a repetition of the first *ἔφοδος*. On this theory Dörpfeld<sup>2</sup> wrongly explained the first route as containing statues *ἐν τῇ Ἀλτει*, while the second was outside the older Altis, and so, though equally long, contained fewer statues. But against this interpretation, it must be urged that the periegete is describing the Altis of his day, when the road in question was included within its boundaries, and that the Great Altar and the two last statues mentioned (187, 188) as standing near the pillar of Oenomaus were always inside.<sup>3</sup> And neither this Processional Way nor the space before the eastern front of the temple of Zeus were localities for "unimportant mixed statues."<sup>4</sup> Furthermore, if he had merely retraced his steps after arriving at the Leonidaeum,—and he says nothing of

that the Christians would completely destroy this, the chief pagan altar. Dörpfeld (*Bauw. v. Ol.* Textbd. II, p. 163) suggested that it may have stood south of the Exedra of Herodes Atticus, where its site must certainly be sought.

<sup>1</sup> *Op. cit.* p. 164.

<sup>2</sup> See *Ath. Mitt.* 1888, p. 335 f. (and cf. *Ergeb.* Textbd. I, 88). He says: "Zu unserer Verwunderung sehen wir, dass der zweite Teil die ununterbrochene Fortsetzung des ersten Teiles ist, also in Wirklichkeit nur eine Ephodos, nur ein einziger Rundgang."

<sup>3</sup> This pillar stood between the Great Altar and the temple of Zeus. Cf. V, 20, 6.

<sup>4</sup> Ἀνδριάντας δὲ ἀναμειγμένους οὐκ ἐπιφάνειν ἄγαν ἀναθήμασιν (VI, 17, 7); again in VI, 18, 2, he says he discovered "by searching" (ἀνευρών) the statue of Anaximenes.

returning, — he would not have begun a new route,<sup>1</sup> but would have said something like this: *εἰ δὲ ὀπίσω ἀναστρέψας ἀπὸ τοῦ Λεωνιδαίου πρὸς τὸν βωμὸν αὐθις ἀφικέσθαι τῇ δεξιᾷ θελήσειας* (by analogy with the words in V, 15, 1). So it is simpler to conclude that the new route wound around the western and northern sides of the temple of Zeus over the temple terrace.<sup>2</sup> As no building is mentioned on the way, and as the north side of the temple would have been called *ἀριστερὰ πλευρά* (in accordance with the usage discussed above in connection with the Heraeum), and as the Pelopium faces southwest, the words *ἐν δεξιᾷ* can refer only to the right hand of Pausanias, viz. the right side of the road followed. If we assume that the words originally stood after *τοσάδε ἐστὶ σοι* and were transferred by a later copyist, the difficulty is resolved.<sup>3</sup>

Of the nineteen victor statues in this second route (170–188, VI, 17, 1–18, 7), no bases have been found.<sup>4</sup> But of the three “honor” statues included, one base, that of the rhetorician Gorgias (184 a), was recovered 10 m. northeast of the temple of Zeus, and so not far from its original position.<sup>5</sup> For Pausanias mentions only three more statues, before he comes to the

<sup>1</sup> Similarly on arriving at the statue of Telemachus he moved first to the east and returned, passing the chariot of Cleosthenes, before proceeding west, without mentioning the fact.

<sup>2</sup> The Terrace wall can still be traced before the western front of the temple and also to the northeast of it. Cf. Treu, *Arch. Zeit.* 1878, p. 36, “So umgab denn vermutlich einst den ganzen Tempel eine statuenbekrönte Terrasse.” Hitzig-Blümner, *op. cit.* II, 2, p. 619, suppose such a road to the west and north the temple, but would interpret it *ἐν ἀριστερᾷ*.

<sup>3</sup> Cf. Hyde, *op. cit.* p. 70; Blümner (cf. note 2) rejects this textual change and follows Hirschfeld and Dörpfeld. I proposed this change by analogy with the text of V, 24, 1; 21, 2 and other passages.

<sup>4</sup> The bronze tablet of Democrates (170), found south of the southwest corner of the temple of Zeus, did not belong to his victor statue, but stood inside the temple. See *Inscr. v. Ol.* No. 39. Also the archaic helmeted marble head and arm with the remains of a shield attached (see *Ergeb. Tafelbd.* III, pl. VI, 1–4, 5–6), the head being found west of the temple and the arm before the gate of the Pelopium, wrongly ascribed by R. Förster (*Das Porträt in der Gr. Plastik*, p. 22, note 5) to Damaretus (94), and by Treu (*Arch. Zeit.* 1880, p. 48 f., and *Bildw. v. Ol.* III, p. 34, note 2) and Overbeck (*Gesch. der gr. Pl.* I, p. 198 f., and *ibid.* p. 178) to Eperastus (183), I have referred to an older hoplite, Phricias of Pelinna (Förster, *Sieger v. Ol.* Nos. 151, 155). Eperastus won after Ol. 111. See Hyde, *op. cit.* p. 43.

<sup>5</sup> See *Inscr. v. Ol.* No. 293.

last two in this ἔφοδος, which stood in this vicinity. The parts of the Altis to the west and north of the temple were unimportant till the time of Alexander the Great, and were, therefore, remarkably free of monuments. In the whole description of Pausanias, we know of only three altars (those of Aphrodite, the Seasons, and the Nymphs) and a wild olive tree (the "Olive of the Beautiful Crown") to the west of the temple (V, 15, 3), and only of the votive offerings of a certain Micythus to the north of it (V, 26, 2).<sup>1</sup> As the statue of Gorgias stood among the "unimportant mixed statues" already mentioned (184-186), these must have stood somewhere north of the temple near its eastern end. Finally, the two ancient wooden statues of Praxidamas and Rhexibius (187-188, VI, 18, 7) are mentioned by themselves as near the column of Oenomaus, which Pausanias elsewhere<sup>2</sup> says stood near the Great Altar of Zeus on the left of a road running south from it to the temple. Pausanias, after describing these "mixed" statues, may have finally left the road thus far followed and introduced these last two statues as quite distinct from the second ἔφοδος.<sup>3</sup> But he does not seem to have gone far from his route, for immediately after ending his account of the victor statues, he begins his account of the "Treasures," which lay beyond the Great Altar farther north.

Thus Pausanias ends his second route somewhere short of the Great Altar, and it appears, after all, to be only a continuation of the first, forming with it one unbroken "Rundgang,"

<sup>1</sup> See *Inscr. v. Ol.* No. 267-269. Supposed foundation found thirty feet north of the temple. Cf. Frazer, *op. cit.* III, pp. 646 sq.

<sup>2</sup> V, 20, 6. A large foundation, between the pedestal of Dropion, King of the Paeonians (*Inscr. v. Ol.* No. 303), and the pedestal of the Eretrian Bull, may have formed part of the house of Oenomaus (cf. Curtius u. Adler, *op. cit.* p. 40; Flasch, *l.c.* p. 1074); Wernicke (*Jb. Arch. I.* IX, 1894, p. 93), however, refers it to the oval depression called the Great Altar. Dörpfeld (*Ol. Textbd.* I, 77) is opposed to this view and places it further north, near the Metroum.

<sup>3</sup> This is Kalkmann's theory (*op. cit.* p. 89), who calls this section (VI, 18, 7) the "letzten Trumpf," an addition having no connection with the second ἔφοδος. He compares it with V, 24, 9, where Pausanias, after ending the periegesis of the Altars, adds one more, that of "Zeus Horkios," standing in the Council House, though he had already passed this point twice without mentioning it. He also compares V, 27, 12 (the transition to the account of the victor statues); Gurlitt, however (*op. cit.* p. 392), explains this last section as due to a later revision of Pausanias' work.

though in a different sense of the word from that intended by Dörpfeld.

From a study of these two routes, and a comparison of the dates of the victorious athletes,<sup>1</sup> we can draw the following conclusions as to the positions of the victor statues mentioned by Pausanias at Olympia:

1. The twenty-eight oldest statues—exclusive of the five already mentioned as having been removed from the area of the later temple of Zeus<sup>2</sup>—dating from Ol. 58 (= 548 B.C., Pythocritus, 128 b) to Ol. 76 (= 476 B.C., Theognetus, 83), *i.e.* down to the approximate date of the founding of the temple,<sup>3</sup> stood in the space between the eastern front of the temple and the Echo Colonnade, or to the south of it near the South Altis wall. Only one statue (that of Protolaus, 48) stood as far north as the Eretrian Bull. Thus the southeastern part of the Altis was the oldest part dedicated to victor statues.

2. After this space was mostly filled, the next statues, those dating from Ol. 77 (= 472 B.C., Callias, 50) to Ol. 93 (= 408 B.C., Eubotas, 75), *i.e.* from about the time of the foundation of the temple to near the date of the battle of Aegospotami, fifty-one in number, stood between the Heraeum and the Victory of Paeonius; only one stood as far south as the Altis wall, while seven stood around the Chariots, ten around the Victory, twenty around the Bull, and the rest further north (including 176, 185 of the second *ἐφοδος*, which stood north of the eastern end of the temple). Diagoras and his family (59–63) had their statues near the older famous wrestler Euthymus (56); Alcaenetus and his sons (64–66), besides many other pugilists, had theirs near the Diagorids; Tellon (102) had his near that of his compatriot Epieradius (101); later Achaeans had theirs near that of their countryman Oebotas (29), and Spartans near that of Chionis (111); some, as the three victors from Heraea (176, 177, 32), stood far apart only apparently, for the last one

<sup>1</sup> See the catalogue in my *De Olymp. Stat.* (pp. 3 f.) for dates, and cf. pp. 72 f. for results. The summaries are made only on the basis of the one hundred and fifty-three monuments which can be exactly or approximately dated.

<sup>2</sup> Eutelides (148), Praxidamas (187), Rhexibius (188), Polypithes and Caliteles (100–101).

<sup>3</sup> On the date of the temple of Zeus (408 B.C.–456 (?) B.C.), cf. Dörpfeld, *Ol. Ergab.* Textbd. 2, pp. 19 ff.

had his statue near the Bull, and so not far from the other two, though these are named in the second *ἔφεδος*.

3. From near the date of the battle of Aegospotami, down to the time of Alexander the Great, *i.e.* Ols. 94-106 (404-356 B.C.), thirty-six statues filled in the intervals left among these older statues; fifteen stood near the Heraeum, five between it and the Bull, seven around the Bull, five around the Victory, one near the Chariots, and three along the South Altis wall. Euthymenes and Critodamus (70, 80) had their monuments near that of their older countryman (79), whose statue was made by Myron; the Ephesians Pyrilampes and Athenaëus (35, 36) had their statues beside that of their benefactor Lysander (35 a).

4. After Alexander's time, in consequence of the recent building of the Philippeum, Leonidaëum, and Theecoleum to the west of the Altis, the western side of the temple of Zeus (and, to a lesser degree, the northern) became important, and henceforth statues surrounded the temple on all sides. Of the thirty-three statues of this epoch, nine stood to the west of the temple, four to the north, seven to the south, while the rest stood either to the east or near the Heraeum. We shall see also that many later statues, known to us from inscriptions only, stood outside the Altis, to the west and northwest.

II. STATUES NOT MENTIONED BY PAUSANIAS. — Having established these data, it is not difficult, from the positions of the many inscribed fragmentary bases found at Olympia and referred to victor statues not mentioned by Pausanias, from the approximate dates of the victories as gained from the age of the inscriptions, and by again employing the system of groups already mentioned, to state quite definitely where many of these statues stood. Pausanias, who mentions 188 victors with 192 monuments in his two *ἔφεδοι*, expressly states that he enumerates only those "who had some title to fame or whose statues were better made."<sup>1</sup> The reasons for his selection and the fact that he mentions the statue of no athlete certainly later than the middle of the second century B.C.,<sup>2</sup> though we know

<sup>1</sup> VI, 1, 2, and cf. his words in VI, 17, 1.

<sup>2</sup> The three latest statues of victors whose dates are fixed are those of Clitomachus (146), who won in Ols. 141-142, Caper (150), who won in Ol. 142, and Acestorides (119), who won in Ols. 142-144 (= 212-204 B.C.): still later statues,

from inscriptions that statues were set up far into the third century A.D. at least,<sup>1</sup> have been the subject of much discussion but do not concern us here.<sup>2</sup> The words of Pliny, "Olympiae, ubi omnium, qui vicissent, statuas dicari mos erat" (34.16), refer, of course, only to the right and not to the actual fact, for many victors would have no statues, as it was necessary for them or their relatives or city-states to meet the expenses of their erection.<sup>3</sup> No more is the rest of his statement, viz. that those victors who were victorious three times had the right to erect portrait statues in their honor, to be taken literally, for we have at least one exception.<sup>4</sup> Besides we know that portrait statues were practically unknown before the fourth century. Most of the victor statues were mere types — those of Hermes and Heracles being most common — with-

whose dates cannot be exactly determined, are those of Sodamus (42), who won ? Ols. 142-145, Amyntas (40) in ? Ol. 146, Timon (152) in ? Ols. 146-147, and Lysippus (162) in ? Ols. 149-157 (= 184-152 B.C.).

Of the first century A.D. Pausanias mentions three victors, though without statues: Artemidorus (125 a), who won in Ol. 212, Polites (111 b) in Ol. 212, and Hermogenes (111 a) in Ols. 215-217 (= 81-89 A.D.); see Hyde, *op. cit.* catalogue, pp. 3 f.

<sup>1</sup> The last known victor statue at Olympia is that of Valerius Eiectus of Sinope, four times victor as herald, winning in Ols. 256, 258, 259, 260 (cf. Förster, Nos. 741-744). Philumenus of Philadelphia in Lydia, victor in wrestling (?), in Ol. 288 (?) = 373 A.D. (cf. Förster, No. 750), had a statue, as we learn from the conclusion of an epigram preserved by Panodorus in Cramer's *Anecd.* II, p. 155, 17 f.; cf. *Inscr. Metr. Gr.* ed. Preger, No. 133). It may not have been in Olympia.

<sup>2</sup> On his use of older lists of victors cf.: P. Hirt, *De fontibus Pausaniae in Eliacis* (Greifswald, 1878), pp. 12 f.; Mie, *Quaestiones Agonisticae* (Rostock, 1888), pp. 17 f.; Kalkmann, *op. cit.* pp. 103 f.; Gurlitt, *op. cit.* p. 426, note 43; Robert, *Hermes*, XXIII, p. 444; Hirschfeld, *l.c.* pp. 105 and 111; J. Jüthner, *Philostratos über Gymnastik* (1909), pp. 60-74 and 109 f.; E. Norman Gardner, *Greek Athletic Sports and Festivals* (1910), p. 50. Pausanias frequently mentions such sources himself, e.g. III, 21, 1, V, 21, 9, VI, 2, 3. Hirschfeld (*l.c.* pp. 105 and 113) and others have doubted whether Pausanias had been in Olympia at all.

<sup>3</sup> Cf. Dittenberger and Purgold, *Ol. Ergeb. Textbd. (Inscr.)* V, p. 235. Pausanias in VI, 1, 1, distinctly states there are not statues of all victors, adding that some of the most distinguished had none.

<sup>4</sup> The epigram on the base of the monument of Xenombrotus (133) stated it was a portrait of the victor (cf. VI, 14, 12), though we have no record that he was victor more than twice (see *Inscr. v. Ol.* No. 154). The second monument will be mentioned later.

On the basis of three or more victories several victors should have had portrait statues; see e.g. Förster, Nos. 60, 86, 144, 351, 358, 495, 603, 741, 815.



out individualized features, simply representing the various contests by position or some characteristic, *e.g.* the helmet and shield for "hoplite" victors.

Five of these inscriptions have been referred to the sixth and fifth centuries B.C.<sup>1</sup> Of these the inscribed base of Pantares was found near the South Altis wall, and the statue must have originally stood east of the temple of Zeus, near the chariot of Gelo (90), for these two were the only victors from Gela and won in the same contest and at nearly the same date.<sup>2</sup> The statues of Phricias of Pelinna and Phanas of Pellene, both representing victors in the heavy-armed race, to which I have ascribed two archaic marble heads, the former found west of the temple of Zeus and the latter to the south of it, must originally have stood in the area of the later temple and then have been removed.<sup>3</sup> That of an unknown Aeginetan pancratiast, Epitimias, the two fragments of whose base were found, one near the Heraeum and the other to the east of the temple of Zeus, should have stood near the statues of the only other pancratiasts of a similar age, either by those of Dorieus (61 = Ol. 87-89) and Damagetus (62 = Ol. 82-83) in the zone of the Bull, or by that of Timasitheus (82 = Ol. (?) 65-67) in the zone of the Victory. Lastly, a second inscribed base of Xenombrotus (133), found near the Council House outside the South Altis

<sup>1</sup> For dates, places of finding, and contests, references are constantly made by number to Dittenberger, *Inscr. v. Ol.*; the number of each victor is given also from Förster's lists, which, though incomplete, are the latest that have yet appeared (Zwickau Program, 1891-1892). Where the exact dates are known they are cited from Förster.

<sup>2</sup> See *Inscr. v. Ol.* No. 142 (Pantares, son of Menecrates of Gela). Förster, No. 149 = Ol. 67 (?). Gelo won Ol. 73.

<sup>3</sup> Phricias won twice; cf. Förster, Nos. 151 and 155 = Ols. 68, 69. My ascription of this head has already been noted. Phanas was three times victor on the same day (τριαστής) in the στάδιον, δίαυλον, and as ὀπλίτης in Ol. 67; cf. Förster, Nos. 144-146. For this head see *Ol. Ergeb.* Tafelbd. III, pl. VI, 9-10. As it is more archaic than the former, I have ascribed it to the elder victor. Cf. Hyde, *op. cit.* p. 43.

<sup>4</sup> See *Inscr. v. Ol.* No. 150, . . . ἀδας. Röhl, *I. G. A.* 355 and add. p. 182, wrongly ascribed this mutilated inscription to Agiades (103), who won Ol. 72-74 (?) (Förster, No. 519, dated it Ol. 161 (?), following Röhl). Robert, *Hermes*, XXXV, p. 181, identified it with Epitimiadas of the Oxyrhynchus papyrus, who won Ol. 78 in the πρυμναίον. Both Dittenberger and Löwy, *Inscr. d. gr. Bild.* No. 416, refer it to the first half or the middle of the fifth century.

wall, doubtless once stood near the first along this wall to the east of the base of Telemachus.<sup>1</sup>

No inscribed fragments of bases dating from the fourth century have been found.

Beginning with the third century, we shall see that most of the recovered bases were found either in the western part of the Altis, in the neighborhood of the Philippeum, Theecoleum, and Leonidaem, on both sides of the Altis wall, or still farther west and northwest, especially in or near the Palaestra and the Prytaneum. We have already seen that most of the statues named by Pausanias dating from Alexander's time stood to the west (and north) of the temple of Zeus. As Pausanias only enumerates statues *ἐν δεξιᾷ* of his route around the temple to the Great Altar, these statues farther west and northwest are omitted from his account. Of the four bases of statues referred to the third century, all belong to Elean victors; three were found west and northwest of the Prytaneum and beyond, showing that these statues once stood in the vicinity of this building, and the fourth was found farther south, by the Palaestra, where it probably stood.<sup>2</sup>

Of the four statues referred with certainty to the second century, all but one were found to the west of the Altis, ranging from the Philippeum northwest of the temple of Zeus to the Leonidaem; two of them were found outside the West Altis wall, between the Leonidaem and Byzantine church.<sup>3</sup>

Of the seven bases referred to the second and first centuries B.C., three were found in or near the Byzantine church, show-

<sup>1</sup> See *Inscr. v. Ol.* No. 170; for the second monument to Xenombrotus mentioned by Pausanias, cf. Hyde, *op. cit.* p. 53.

<sup>2</sup> See *Inscr. v. Ol.* Nos. 175 (Nicarchus, son of Physias, *πάλην*, Förster, No. 375; base found in a late wall west of the Prytaneum. Förster's proposed dating, *Ol.* 110 = 340 B.C., is wrong); 180 (unknown victor, son of Taurinus; base found at the southeast corner of the Palaestra); 181 (unknown victor, son of . . . phinus; base found in the "Nordwestgraben"); 182 (Thersonides, son of Paeanodorus, *πάλην*; *πωλικῶν*; base found northwest of the Prytaneum.

<sup>3</sup> See *Inscr. v. Ol.* Nos. 185 (D . . . gonus, twice victor in *πέξ*; base found outside the apse of the Byzantine church, west of the West Altis wall); 187 (unknown boy victor, *πάλην*, or *παγκράτιον*; base found in the East Byzantine wall); 188 (unknown victor, *συνορίδι τελείῳ*, *ἀρματι τελείῳ*; base found south of Philippeum); 189 (unknown victor, son of Aegyptus of Elis, *πάλην*; base found northeast of the Leonidaem).



ing that statues may have stood in the Greek building later converted into the church;<sup>1</sup> two more were found near the southwest corner of the Altis, and may therefore once have stood near the statue of Philonides mentioned by Pausanias in that vicinity; two others stood farther away, one inside the Prytaneum, the other northeast of the temple of Zeus.<sup>2</sup>

The positions of the twenty-four bases (belonging to monuments of twenty-two victors) found and with certainty referred to the first pre-Christian century were very scattered.<sup>3</sup> One

<sup>1</sup> This Greek building dates from the first half of the fifth century B.C. Cf. Adler, *Ol. Ergeb.* Textbd. II, pp. 93-105, and Flasch, *l.c.* pp. 1070 f. and 1104 m. f., both of whom identify it with the workshop of Phidias; Curtius, *Die Altäre v. Ol.* p. 20 (= gesamm. Abhandl., 2, pp. 57 f.), refers it to the Theocoleum, generally identified with the easternmost of the two buildings further north.

<sup>2</sup> See *Inschr. v. Ol.* Nos. 190 (unknown victor, son of Aristotle, *συνωρίδι παλικῆ*; base found in front of north side of Byzantine church); 192 (Aristodamus, son of Aleximachus of Elis; base found in floor of church); 193 (unknown victor; base found northeast of the temple of Zeus); 194 (.....chus, son of Nicodromus of Elis, *συνωρίδι παλικῆ*; base found southwest of the Altis before the West Altis wall); Förster, No. 484; 195 (unknown victor from Elis; base found in the Prytaneum); 196 (unknown victor from Elis; base found northwest of church); 197 (Antigenes, son of Jason of Elis, *συνωρίδι παλικῆ*; base found in southwest corner of the Altis; Förster, No. 808).

<sup>3</sup> See *Inschr. v. Ol.* Nos. 191 (Agilochus of Elis, *κέλητι παλικῆ*; base found in the East Byzantine wall; Förster, No. 807); 198-204 (family group of Philistus of Elis, all in "horse" contests; one bathron for all, one fragment of which was found southwest of the Pelopium, four others south of the Philippeum; names (one not preserved) given in Förster, Nos. 542-547 (one, Telemachus, son of ... Leon, had another statue, see *Inschr. v. Ol.* No. 406); 205 (Philonicus, a son of Philistus; base also found south of the Philippeum; Förster, No. 822); 206 (unknown son of Philistus, base found west of the Prytaneum; Förster, No. 828); 207 (Charops, son of Telemachus; place of finding unrecorded); 208 (Aristarchus; base found east of the Byzantine church); 209 (Damaithidas, son of Menippus of Elis; *συνωρίδι παλικῆ*; base found west of the Council House; Förster, No. 482); 210 (Thrasymachus or Thrasymedes; base found in the "Nordostgraben"); 211 (Democrates of Antioch, Caria; base found in the Cladeus); 212 (Demo.....; base found northeast of the Prytaneum); 213 (Thaliarchus, son of Soterichus of Elis; *τύξ παιδῶν καὶ ἀνδρῶν*; base found east of the Council House; Förster, Nos. 614, 619); 214, 215 (Menedemus, son of Menedemus of Elis, *συνωρίδι παλικῆ*; two statues, one found east of the temple of Zeus, the other in the Heraeum); 216, 217 (Lycomedes, son of Aristodemus of Elis, *συνωρίδι παλικῆ*; two statues, one base found in front of the West Byzantine wall, on the south side of the temple of Zeus, the other in the "Westgraben"; Förster, No. 550); 218 (Archiadus, son of Timolas of Elis; *κέλητι παλικῆ*; base found southwest of the temple of Zeus, on the terrace wall; Förster, No. 535);

large Pentelic marble *bathron*, supporting the monuments of seven victors of the family of Philistus, must have stood just south of the Philippeum, where most of the fragments were found. The bases of the statues of two other sons and a grandson of the same victor have been recovered, and doubtless stood near by, thus forming a family group of ten, outnumbering that of Diagoras (59-63 and 52) mentioned by Pausanias. The omission of so important a monument in the description of the periegete has been used as an indication of his employment of earlier lists. Of the other bases, two were found outside the South Altis wall, west of the Council House, and two east of it; two east of the temple of Zeus (one of them that of the youthful Tiberius, afterwards Roman emperor, which must have stood near the Eretrian Bull, where it was found); one southwest of the temple, along the South Terrace wall, pointing to a position among the statues there named by Pausanias; one east of the Byzantine church, pointing to a position south of the Theaeconium; two to the northwest of the Altis, in the vicinity of the Prytaneum, while the rest were scattered from the northeastern part of the Altis to the bed of the Cladeus. Thus over half (13) of these statue bases were found in the west and northwest of the Altis and beyond; the space to the east of the temple of Zeus — called "frequentissimus celeberrimusque" by Scherer — seems now not to have been greatly prized. Most of these victories were in "horse" contests. Horse racing had early been discontinued, but was now revived in the first century B.C., when members of the imperial family, emulating the earlier triumphs of the princes of Sicily and Macedonia, became competitors. Thus Tiberius won in the chariot race, and a few years later his son Germanicus in the same event.

Nineteen inscribed base fragments have been referred to the post-Christian centuries, thirteen to the first, three to the second, and three to the third.<sup>1</sup> The spaces around the temple of

219 (unknown victor, son of . . . crates of Miletus, *Ἰάκωβος*, Ol. 190 = 20 B.C., base found near the "Osthalle"; Förster, No. 593); 220 (Tiberius Claudius Nero of Rome; *τεθρίππων*, base found south of the Eretrian Bull; Förster, No. 601 = Ol. 194? = 4 B.C.).

<sup>1</sup> Of the first century A.D.: see *Inscr. v. Ol.* Nos. 221 (Germanicus Caesar, son of Tiberius, *τεθρίππων*, Ol. 199 = 17 A.D.; base found east of temple of Zeus, north of Eretrian Bull; Förster, No. 612); 222 (Gnaeus Marcius; base found

Zeus (especially its eastern front) are again the favorite ones. For, the bases of three statues were found east of the temple (one *in situ*), two near its southeastern corner, three at the northeastern corner (one, that of Germanicus Caesar, son of

opposite the southeast corner of the temple; Förster, Nos. 585, 587); 223 (Marcus Antonius Calippus, Pisanus, son of M. Antonius Alexion, of Elis; *κέλητι πωλικῶ*, Ol. 177 = 72 A.D.; base found in the West Byzantine wall at the southwest corner of the temple; Förster, No. 568); 224 (Polyxenus, son of Apollophanes of Zacynthus; *ἄλῃην παίδων*; base found at southwest corner of the Altis; Förster, No. 823); 225 (P. Cornelius Ariston, son of Eirenaeus, of Ephesus; *παγκράτιον παίδων*, Ol. 207 = 49 A.D.; base found in front of the north wall of the Palaestra; Förster, No. 632; two epigrams preserved, cf. Cougny, *Anth. Pal.* III, p. 26, No. 169); 226 (Tiberius Claudius Aphrodeisius of Elis (?); *κέλητι τελεῖω*, Ol. 208 = 53 A.D.; base found *in situ* east of the temple of Zeus; Förster, No. 634); 227 (Nicanor, son of Socles of Ephesus; *παγκράτιον παίδων*, Ol. 217 = 89 A.D.; four fragments of base found east of the temple and one near its southeastern corner; Förster, No. 666); 228 (Marcus Deida of Antioch; *ἄλῃην παίδων*, Ol. 219 = 97 A.D.; base found southeast of temple; Förster, No. 671); 229, 230 (unknown victor; *δίαυλον* and three times as *ὀπλίτης*; base = 230 [229 older inscription] found in the North Byzantine wall; Förster, Nos. 624-625); 231 (Hermas, son of Ision of Antioch; *παγκράτιον*; base found between West Altis wall and southeastern corner of Palaestra; Förster, Nos. 595-597); 232 (Diogenes, son of Dionysius of Ephesus; *σάλευγγι* five times; base found before middle of Echo Colonnade; Förster, Nos. 815-819); 234 (unknown victor; *ἄλῃην* or *παγκράτιον*; inscribed fragment of bronze leg of statue found near the Stadium); 235 (unknown victor; inscribed fragment of bronze leg of statue found near the fifth column from the east on the north side of the temple; cf. Dittenberger, pp. 346-347).

Of the second century A.D.: see *Inscr. v. Ol.* Nos. 233 (Casia Mnasihea, daughter of M. Betlinus Laitus of Elis; *ἄρματι πωλικῶ*; base found northeast of Prytaneum); 236 (L. Mincius Natalis of Rome; *τεθρίπῳ* and *ἄρματι τελεῖω*, Ol. 227 = 129 A.D.; large pedestal found in east wall of the Palaestra; Förster, No. 686; Gurlitt, *op. cit.* 421, and Förster think this statue is mentioned by Pausanias, V, 20, 8. Dittenberger is against this view, and the place of finding is also against it); 237 (P. Aelius Artemas of Laodicea, *κήρυξ*; Ol. 229 = 137 A.D.; base found 20 m. north of northeastern corner of temple of Zeus; Förster, No. 692).

Of the third century A.D. (after the time of Pausanias): see *Inscr. v. Ol.* Nos. 238 (P. Aelius Alcandridas, son of Damocratides of Sparta; *ἄλῃην* (?) twice; base found northeast of Byzantine church; Förster, Nos. 679-681); 239 (Theopropus of Rhodes; *ἵπῳ*; base found east of the temple; epigram from his statue preserved, cf. Cougny, *Anth. Pal.* III, p. 46, note 284; Förster, No. 746); [240-241 = inscription on a bronze discus, votive (not victor) offering of P. Asclepiades of Corinth; see Förster, No. 739; he was victor in the *πένταθλον* in Ol. 255 = 241 A.D.] 242-243 (Valerius Eclectus of Sinope; *κήρυξ*, Ols. 256, 258-260 = 245, 253-261 A.D.; base found *in situ* in Palaestra; Förster, Nos. 741-744).

Tiberius, just to the north of the Eretrian Bull, and so originally standing here near that of his father), while another stood opposite the fifth column from the east on the north side of the temple. Most of these statues must have been passed by Pausanias in his first *ἔφοδος*, which is another evidence of his use of older lists in compiling his own. Two other bases were found to the southwest of the temple, one of them near its corner, and the other nearer the corner of the Altis, near the base of Philonides. Thus eleven statues stood near the temple. Of the others, four were found in the vicinity of the Palaestra (one inside *in situ*), one to the northeast of the Prytaneum, another northeast of the Byzantine church, while the two remaining ones were found in the eastern part of the Altis, near the entrance to the Stadium and before the Echo Colonnade respectively. The last statue of a victor known to have been erected at Olympia, that of Valerius Eiectus of Sinope, was found *in situ* in the Palaestra.

A study of these inscriptions shows that the practice of setting up victor statues decreased in the fourth and third centuries B.C., but was revived in the second and first, only to decrease again after the first century A.D. On the other hand, the inscriptions show that the number of "honor" statues correspondingly increased. Of the late statues, most were erected to Eleans; names of victors from Sicily and Italy and from the older Greek states, as Sparta and Athens, are rare, being replaced by those from Asia Minor and the newer towns of the Greek mainland. This falling off of interest in the games was, of course, due to professionalism. In the second century B.C. we begin to read in the inscriptions of *περιοδοῦναι*, *i.e.* victors winning prizes at all the four national games, a sure indication of the professional spirit. Even Pausanias mentions two such victors.<sup>1</sup>

From these inscribed base fragments, we have knowledge of

<sup>1</sup> Philinus of Cos (173) won 24 victories, 5 at Olympia, 4 at Delphi, 4 at Nemea, 11 at the Isthmus, mostly in the stadium race. He won in Ols. 129, 130, cf. Paus. VI, 17, 2 (Förster, Nos. 441-442; Leonidas of Rhodes (111 c) was *τριαστής* in 4 different Ols. (154-157), winning 12 races; cf. Paus. VI, 13, 4 and Förster, Nos. 495-497. On the subject of professionalism, cf. E. N. Gardner, *op. cit.* pp. 160, 161, and others.

61 victors (63 monuments)<sup>1</sup> who had statues erected to them, though they are not named in the lists of Pausanias. Of the 192 monuments mentioned by Pausanias, 40 are known to us from recovered fragments of bases and statues. So if we assume the same ratio between known and unknown for those not mentioned by Pausanias, we should have the proportion  $40 : 192 :: 63 : x$ , where  $x$  would equal 302, making a grand total of 494 monuments, which number cannot be far from the actual number of statues adorning the Altis.<sup>2</sup>

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<sup>1</sup> Omitting the bronze discus of the victor P. Asclepiades of Corinth (*Inscr. v. Ol.* Nos. 240, 241).

<sup>2</sup> Förster (II, p. 30) records only 634 victors from all sources.

METHODS OF DETERMINING THE DATE OF  
ROMAN CONCRETE MONUMENTS<sup>1</sup>

(FIRST PAPER)

FOR the dating of ancient monuments, the evidence used is of three classes: internal, external, and a third class which may be called variable evidence. With the nature of the second class, the external evidence, which is, for the most part, literary, all are familiar. The evidence which has been called variable is that furnished by decoration or decorative material, by dedicatory inscriptions, and especially by brick stamps. All these, *when incorporated in or belonging to the structure of the monument*, may be accepted as internal evidence; when, however, they form a nonstructural part of the building or are merely attached to it, they cannot be given more weight than that of external evidence.<sup>2</sup> Upon the second of the three classes, that of external evidence, the conclusions of the earlier writers on topography were almost wholly based. Since the beginning of the new era of excavation, however, increasing attention has been paid to the third, or variable, class of evidence,

<sup>1</sup> The discussion presented in this and in the following article is merely a preliminary study for a more exhaustive treatment of the subject to be published later. On account of the vastness of the field and the small portion of it as yet investigated, the results here given, especially the canon, or norm, of construction for the different periods, though in the main features certain, must inevitably be modified and corrected in many details by later investigation.

<sup>2</sup> Such evidence, however convincing it may appear, cannot by itself be regarded as conclusive. The distinction here suggested is especially vital in dealing with brick stamps. Brick stamps, in order to be accepted as authoritative evidence in dating a monument or part of a monument, must be found not only *in situ*, but incorporated in a structural part of the building and that, too, of the original building. Even then, on account of the use at all periods, whenever feasible, of old material, the evidence of brick stamps is of value only in establishing a *terminus a quo* for the date of the erection of a building. Lack of attention to these facts has led to many of the present errors in the chronology of the monuments.

especially by that famous group of German scholars of which Jordan was the center, whose important work forms the basis of our present knowledge of the chronology of the ancient monuments. The first class, that of purely internal evidence, has received, up to the present time, but little attention.

Internal evidence may be considered, in general, as of four kinds. The first of these is that established by the relation of the building or portion of a building in question to the buildings above and below it, as well as to those adjoining it on the same level, — in brief, the structural environment of the monument.<sup>1</sup> Evidence of the second kind rests upon the harmony — or the absence of harmony — in the general plan of the building itself, and the architectural relation of the various parts of it to each other and to the whole. The third class of evidence is that drawn from the structural unity or lack of unity of the monument, as well as from the uniformity or diversity of its materials and methods of construction, while the fourth is furnished by the character of the materials and by the methods of construction.

The realm of knowledge dependent upon the study of the last two kinds of evidence, especially that dealing with the character of the materials and the methods of construction, has remained up to the present time, in large part, a *terra incognita*, although, from time to time, excursions, most often merely tentative, have been made into it.<sup>2</sup> A more exhaustive investiga-

<sup>1</sup> Concerning the structural environment, especially the level and orientation, of the monuments excavated at an earlier time and now inaccessible, if not destroyed, exact data are almost wholly wanting. The present administration is marked by the endeavor to render the records more nearly complete in these as in many other important details.

<sup>2</sup> Among the earlier works, those of Nibby and Corsi alone are conspicuous: Antonio Nibby, *Dei Materiali impiegati nelle fabbriche di Roma, delle costruzioni, e dello stile* (Roma Antica, I, pp. 234 ff.). Faustino Corsi, *Delle pietre antiche*. The introductory chapters of Middleton's *Remains of Ancient Rome* (1892) merit special mention, on account of the writer's sympathetic treatment of the problems involved and accurate technical knowledge of the material dealt with. As a general discussion of the subject, Durm's *Die Constructionen* (*Baukunst der Etrusker und Römer*, 1905, pp. 179 ff.) is invaluable. A number of recent works, also, dealing with individual monuments or groups of monuments, promise a new era of more accurate observation. Conspicuous among these is the work of Germain de Montauzan, *Les Aqueducs antiques de Lyon*, Paris, 1909.



tion in this field, more especially concerning the materials themselves and the methods used in concrete structures, has seemed, therefore, of primary importance, in order to confirm or, if need be, to correct the conclusions which have been drawn from the other and time-honored classes of evidence. The purpose of the investigation has been twofold: (1) the study of the materials and methods of construction *per se*, and (2) the establishment of a fixed canon, or norm, of construction for the various periods, by which the accepted chronology of the concrete monuments already known may be tested, and dates assigned more easily to new-found or as yet undated monuments.

Roman concrete structures are divided, for the sake of convenience, into two classes, those made (1) of unfaced and (2) of faced *opus caementicium*.<sup>1</sup> In the first class may be included (1) foundations and substructures, for monuments both of *opus quadratum* and *opus caementicium*, (2) *podia*, (3) free-standing walls which, from their position or use, were regarded as substructures, and (4) vaults. The second class may be divided into walls faced with *opus quadratum*, *opus incertum*, *opus reticulatum* (including *quasi reticulatum*), *opus testaceum*,<sup>2</sup> and *opus mixtum*. In dealing with monuments of the second class, the body of the structure and the facing must be considered separately, since the distinctive characteristics—the “earmarks”—of the various periods are to be found now in the one and now in the other. There are cases also, which are by no means rare, where a wall of a certain period has been refaced at a later time. A notable example of this occurs on the south side of the exedra of the Hippodrome on the Palatine, where a considerable stretch of wall of the period of Domitian has been covered by a facing of the time of Septimius Severus. This facing, in its turn, is at present in danger of yielding

<sup>1</sup> The name used by Vitruvius for the whole class of construction is *caementicia structura* (*De Arch.* II, IV, 1; II, VII, 5). *Opus caementicium*, which occurs in inscriptions (*C.I.L.* III, 633), has been, however, adopted in this discussion, since it is already in use.

<sup>2</sup> The *structura testacea* of Vitruvius (*l.c.* II, VIII, 17, 18) may be included under this general heading. It differs, however, from *opus caementicium* faced with *opus testaceum* in that the name refers primarily to the body of the wall, the *caementa* of which are of the same material as the facing.

place soon to a modern one, as can be seen in the following illustration (Fig. 1).

The body of a Roman concrete structure, whether faced or unfaced, is composed of pieces of stone, called by Vitruvius

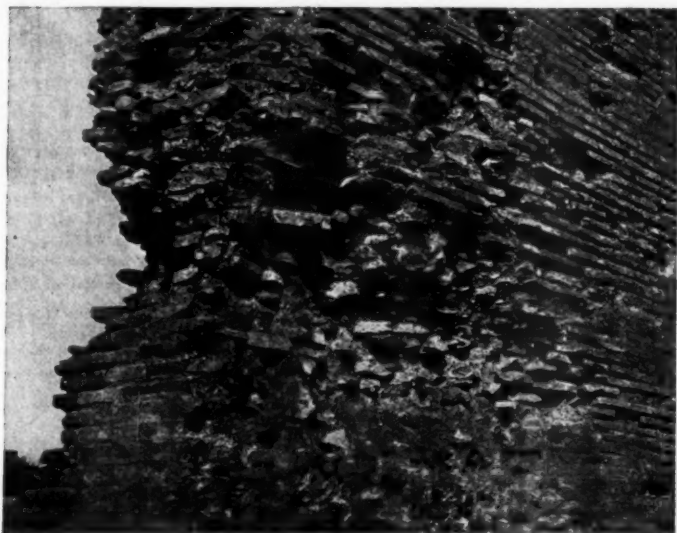


FIGURE 1.—A REFACED WALL.<sup>1</sup>

*caementa*,<sup>2</sup> or of brick laid in a bed of mortar, which together form a solid unified mass,<sup>3</sup> the *opus caementicium* of the Romans (Fig. 2). The *caementa* vary much in material and in size, in the different periods, as well as in the manner of their disposal in the mass. In the periods marked by a full mastery of the

<sup>1</sup> The facing of larger bricks on the left is of the time of Domitian; the finer facing on the right is the work of the period of Severus.

<sup>2</sup> *L.c.* II, IV, 3; II, VIII, 1, 2. In the *structura caementicia* of Vitruvius, the *caementa* were wholly of stone. When roof-tiles were used, the mass was called by him *structura testacea*. The use, for this purpose, of bricks other than those made from tiles did not even arise, at least in Rome, till after his time. For the sake of simplicity, the term *caementa* is used here, however, for all forms of filling.

<sup>3</sup> The concrete construction of the Romans should not be confused with modern rubble, from which it differed essentially.

technique of the construction, the *caementa* differed also, according as they were used in foundations and *podia*, free-standing walls, or vaults. Since they consist, in great part, of the rejected or broken materials of the preceding period, they furnish, in many cases, valuable data, not only concerning the

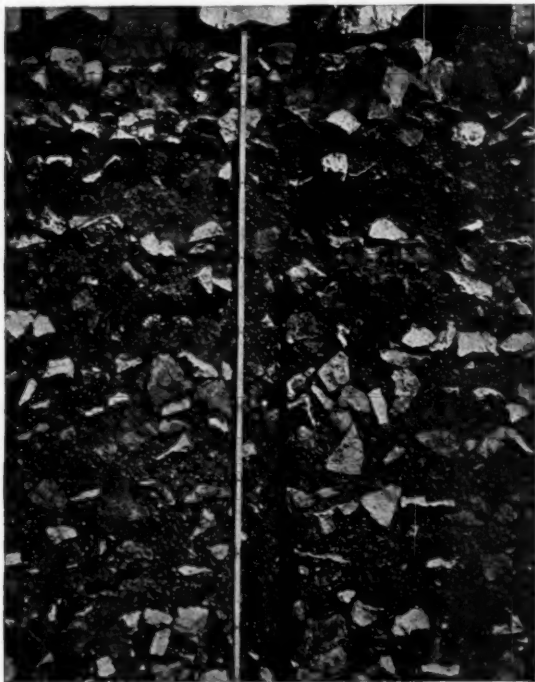


FIGURE 2.—AN UNFACED WALL OF OPUS CAEMENTICIUM OF THE PERIOD OF NERO.<sup>1</sup>

monument in which they are found, but also concerning the earlier building of which they formed a part. In the Regia of Calvinus,<sup>2</sup> for example, the *caementa* of the lower walls, contrary

<sup>1</sup> The section of wall here shown is from one of the massive concrete substructures on the Velia (see Platner, *Topography and Monuments of Ancient Rome*, 1911, pp. 311-312).

<sup>2</sup> 36 B.C.

to the rule of the period,<sup>1</sup> consist wholly of large pieces of *cap-pallaccio*, the inferior tufa which was used almost exclusively in very early buildings. We may safely conclude, therefore, that the earlier building which the Regia of 36 B.C. replaced had retained wholly or in part its very primitive walls.

The mortar is composed of *pozzolana*, which is called by Vitruvius *arena fossicia*,<sup>2</sup> and lime. The data derived from this *pozzolana-arena*, the varieties<sup>3</sup> of which used in the various periods differ widely, are often of great importance. A most striking example of this is to be found in the monuments of the Augustan period, in which one of the distinctive characteristics of the construction, the dusky red color of the mortar,<sup>4</sup> arises from the use in it of a special variety of *pozzolana*,<sup>5</sup> the introduction of which by Augustus, or by his predecessor Julius Caesar, marks an epoch in the history of concrete construction. The lime also differs much, in the various periods, in quality<sup>6</sup> as well as in quantity.<sup>7</sup>

The facing of concrete monuments varies greatly in the different periods. With the increase of knowledge in the manufacture and use of concrete, or *opus caementicium*, as we may more safely call it, and the corresponding decrease in the structural value assigned to squared stone, or *opus quadratum*, arose the use of the latter as a mere facing. In consequence of this change, certain structures, for reasons of economy, were left practically unfaced,<sup>8</sup> or were faced with small stones, as a substitute for the more costly *opus quadratum*. In place of

<sup>1</sup> See the following article for the period of Augustus.

<sup>2</sup> L.c. II, IV, 1. The name *pulvis Puteolanus*, the modern *pozzolana*, was confined by the ancients to the volcanic earth found near, or shipped from, Puteoli (Seneca, *Quaest.* III, 20, 3; Pliny, *N. H.* XXXV, 167). The volcanic origin of the *pozzolana* found near Rome, as well as many of its most valuable properties, were unknown to Vitruvius.

<sup>3</sup> For the varieties of *pozzolana*, see Vitr. l.c. II, IV, 1.

<sup>4</sup> See the following article, for the period of Augustus.

<sup>5</sup> The *arena rubra* of Vitruvius (l.c. II, IV, 1).

<sup>6</sup> See Vitruvius, l.c. II, V.

<sup>7</sup> For the proportion of lime in the Augustan period, for example, see Vitruvius, l.c.

<sup>8</sup> In the earlier *opus incertum*, the character and arrangement of the pieces of stone forming the facing do not differ materially from the character and arrangement of the *caementa* in the body of the wall. The structure may be regarded as in a technical sense unfaced.

this facing of small stones, the *opus incertum* and *opus reticulatum* of the late republican and Augustan periods, brick-facing was introduced. With this class of concrete monuments, especially those faced with brick, the present discussion is, in the main, concerned.

In the facing of concrete structures of this last type, the bricks used in Rome are of two distinct kinds. The first of these is that made from broken *tegulae*,<sup>1</sup> or flanged roof-tiles, and, at a later time, from the larger floor-tiles called *tegulae bipedales*.<sup>2</sup> These bricks, to which may be applied the name tile-bricks, are roughly broken except on the front side, which is evenly sawed.<sup>3</sup> In the earlier periods, they are more often irregularly trapezoidal in shape; but after the introduction of triangular bricks they tend to approach the triangular form. The bricks which are made from roof-tiles are conspicuous for their fine composition, even, close-knit texture, and clear magenta-red<sup>4</sup> or light yellow color; those made from *bipedales* — which belong to a much later period — are of coarser composition and vary considerably in color. The bricks of the second kind used in wall-facing are triangular in shape, and, in Rome, are made by sawing diagonally into two pieces smaller square tiles, or bricks, measuring from 19–22 cm.<sup>5</sup> Outside of Rome, notably in Pompeii and Sicily, square tiles of various sizes were used, which were sawed into four triangles.<sup>6</sup>

<sup>1</sup> Vitr. *l.c.* II, VIII, 19.

<sup>2</sup> *L.c.* V, X, 2; VII, IV, 2.

<sup>3</sup> The use of the saw in the manufacture of facing bricks was clearly recognized by Piranesi (*Ant. Rom.* III, Tab. V.), though he failed to recognize the various kinds of bricks so treated. The presence of sawed roof-tiles in wall-facings is recognized, also, by Boni (*Atti del. Cong. Stor.* V, 55 f.). Cf. Mau's description of the tiles used in the Rostra Augusti as *zurechtgehauene Stücke von Dachziegeln* ('Rostra Caesaris,' *Röm. Mitt.* XX, 3, p. 258). The use of sawed bricks is very common in Pompeii, also.

<sup>4</sup> The color is hard to define. It tends, however, toward brownish rather than yellowish red.

<sup>5</sup> These square tiles, though in the early empire they usually exceed 20 cm. in size, are probably the *laterculi bessales* (0.197 m.) recommended by Vitruvius (*l.c.* V, X, 2) for the building of hypocaust pillars. Of their use in wall-facing, there is no trace in his work.

<sup>6</sup> The two types are easily distinguished. In the Roman triangles the front side alone is sawed, while in the others the two shorter sides are sawed or, in Pompeii, broken, and the front is moulded.

A large number of *bipedales*, marked for sawing, are to be found in both the large and small theatres at Taormina (Fig. 3). A few others, also similarly marked, were seen by me several years ago, in a Roman villa in Corfu. These triangular bricks in Rome are far less fine in composition and

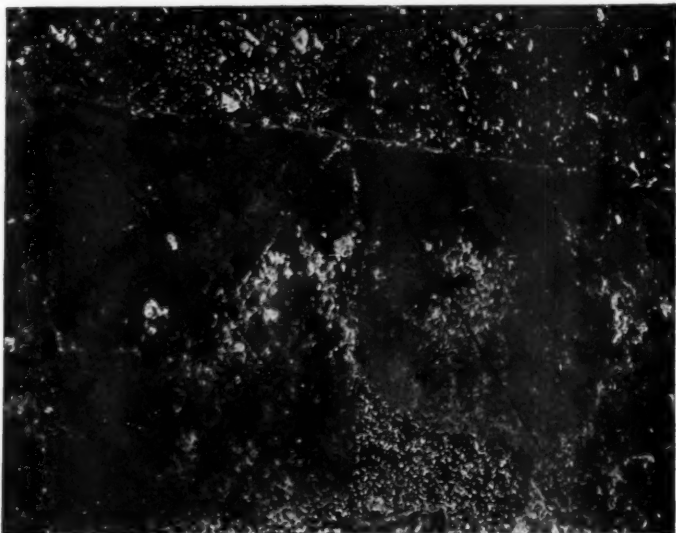


FIGURE 3. — BIPEDALES IN THE LARGE THEATRE AT TAORMINA.

texture than the roof-tile bricks and vary in color from reddish yellow to a deep yellowish red.

In deciding the date of any ancient monument, after a consideration of the external and variable evidence concerning it, its level and orientation and its structural relation to the adjoining monuments must also be determined. Passing, then, to the monument itself, it is necessary first to ascertain whether it consists of a single building or of a group of buildings.<sup>1</sup> For the determination of this question, an examination must be made not only of its architectural plan but also of its structural unity. This structural unity — or better, the lack of it — is

<sup>1</sup> For an example of a complex group of buildings, see Van Deman, *The Atrium Vestae*, Washington, 1909, Plan E.

seen most clearly in the facing, though it is often almost as apparent in the body of the monument. It is shown (1) by a break in the continuity of the concrete mass itself or of the facing, causing often a noticeable crack<sup>1</sup> (2) by a change in the materials and methods of construction, or (3) in both



FIGURE 4. — WALLS OF DOMITIAN AND HADRIAN IN THE DOMUS AUGUSTANA.<sup>2</sup>

these ways. In the body of the building, if no marked difference exists in the type of construction, the break in structural continuity is almost impossible to detect. In the facing, on the other hand, when the break occurs in a straight stretch of perpendicular wall, it is very apparent. When it occurs, how-

<sup>1</sup> See Fig. 6.

<sup>2</sup> The wall on the right is of the period of Domitian, while that on the left is of the time of Hadrian.



ever, between the stories of a building, or at a corner, as in the accompanying illustration (Fig. 4), it is more difficult to discover, unless accompanied by a noticeable change in material and methods of construction. This difficulty is often still further increased by the presence of a form of false bonding,<sup>1</sup> by which the line of juncture of the two walls was concealed and the parts bound more closely together. A change in the materials and methods of construction is far more readily



FIGURE 5. — REPUBLICAN AND IMPERIAL WALLS ON THE VELIA.

detected. It is traceable, in the body of the structure, (1) in the difference in the material and size of the *caementa*, or filling, as well as in the manner of their disposal in the mass, and (2) in the composition, color, and cohesion of the mortar.<sup>2</sup> In the facing of the structure, the change is very clear where the types of construction have no superficial resemblance to each other, as in certain remains on the Velia (Fig. 5), in

<sup>1</sup> See Fig. 4.

<sup>2</sup> Variation in the color of the mortar, as well as many other differences in material, can be most easily detected when the walls are damp.

which the earlier wall of *opus quadratum* has been used as a foundation for one of *opus caementicium* faced with *opus reticulatum*, which, in its turn, has been partly replaced by a later wall faced with brick. The change is less plain where the facing is wholly of brick; it is, however, traceable in the size and kind of bricks used, as well as in the thickness of the joints of mortar and in its composition. Where both a break in the



FIGURE 6. — BRICK-FACING OF THE PERIODS OF DOMITIAN AND SEPTIMIUS SEVERUS.<sup>1</sup>

continuity of the mass or of the facing and a change in the type of construction are found, the lack of structural unity and, in consequence, the complex character of the monument are clearly apparent, as in the illustration from the Atrium Vestae given above (Fig. 6).

The simplicity or complexity of the structure having been determined,—in monuments of *opus caementicium* by no means an easy task,—an examination of the internal evidence bearing

<sup>1</sup> The wall on the left is of the time of Domitian, and that on the right, of the period of Septimius Severus. See Van Deman, *Atrium Vestae*, pp. 21 ff., 43 ff.

more directly upon the date or dates of the building is possible. In such an examination a fixed standard, or norm, for each period is necessary, with which the materials and methods of construction used in the monument or in the several parts of it may be compared. The establishment of this standard, or canon, has been, as has been said,<sup>1</sup> one of the main purposes of the present investigation.

For the determination of the data upon which this canon should be based a list was made of all the monuments made wholly or in part of *opus caementicium* which still exist or of which an authoritative record has been kept. A special examination was then undertaken of all those still existing to which, on the basis of external or internal evidence, a fixed date has been assigned. In the case of each of these monuments, so far as it has been possible, the examination has included the following points: (1) the orientation and, where ascertainable, the original level of the building, (2) its structural environment, (3) its architectural plan, and (4) its structural unity. On the basis of the results thus obtained a list of the monuments of *opus caementicium* in each of the greater periods has been compiled, which, though depleted by the loss of a few familiar names found in the handbooks on topography,<sup>2</sup> is yet sufficiently large for the purpose in hand. A preliminary outline of the main features of this canon, so far as they are at present determined, is here given.<sup>3</sup>

#### I. THE KINGLY AND EARLIER REPUBLICAN PERIOD (753-210 B.C.)

Of the kingly and earlier republican period but a few remains are left to which even an approximate date can be assigned. From these, however, it is clear that the same type of construction, which is a ruder form of *opus quadratum*, was continued unchanged throughout the whole period. The material used in the earlier part of the period is *cappellaccio*, the

<sup>1</sup> P. 232.

<sup>2</sup> Several of the more important of these monuments will be discussed in later articles.

<sup>3</sup> The canon of the imperial periods will be presented in a second article.

friable gray tufa found on the slopes of the Palatine and Capitoline, as well as on most of the other hills of the city. The blocks used in the courses are low and broad, and the unit of measure employed is the Italic foot of 0.275 m. The walls seem in all cases to be laid without mortar.

The principal monuments of this more primitive type, concerning some of which, however, considerable doubt prevails,

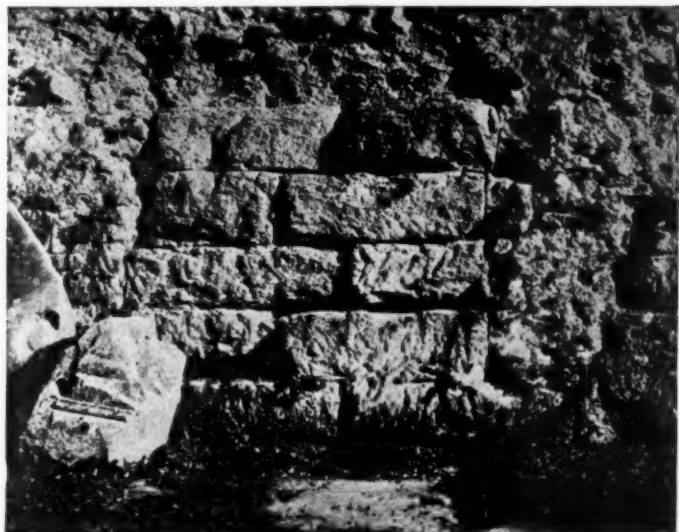


FIGURE 7. — OPUS QUADRATUM OF THE FIFTH CENTURY.<sup>1</sup>

are the following: the portions of the so-called Servian Wall made of *cappellaccio*,<sup>2</sup> the Tullianum, the foundations of the temple of Jupiter Capitolinus, the ancient cisterns on the Palatine,<sup>3</sup> the lower part of the Regia and of the lacus Curtius,

<sup>1</sup> The blocks of *opus quadratum* are of the temple of Castor of the fifth century B.C. The *opus caementicium* immediately surrounding them is of the temple of 117 B.C.

<sup>2</sup> In addition to the small fragments of this wall on the Palatine (Hülse-Jordan, *Top.* p. 37, n. 17) and on the Capitol (*l.c.*), a fine stretch of it on the Quirinal was found several years ago (*Not. Scav.* 1907, pp. 504-510; 1909, pp. 221-222); a part of this is still visible.

<sup>3</sup> Platner, *l.c.* p. 132.

the republican Rostra of the first period,<sup>1</sup> the earlier sacellum of Venus Cloacina, and the temple of Castor of the first period (see Fig. 7), with the earlier Fons Juturnae.<sup>2</sup> From their level and orientation, certain other monuments in the Forum and on the Palatine may be assigned to the same period. The most important of these are the pavements and sewers of *cappellaccio* at the lowest level in the Forum.<sup>3</sup>

The rebuilding of the city which followed its partial destruction by the Gauls in 390 B.C. is probably traceable in a small group of remains, which, while agreeing in their general character with those just described, differ somewhat in details. The type of construction is, as in the earlier buildings, *opus quadratum*. For the *cappellaccio* of the more primitive walls, however, other and somewhat less friable kinds of tufa were substituted, especially a light brownish red and a grayish yellow variety, both of which are very porous and weather badly. The blocks are much higher than in the walls of *cappellaccio*; the unit of measure employed is the Greek foot of 0.296 m. The principal monuments of this group are the later portions of the Servian wall and a few unidentified buildings on the Palatine.

## II. THE LATER REPUBLICAN PERIOD (210 B.C. — the period of Sulla)

In the fire of 210 B.C., a large portion of the center of the city was again destroyed. With the erection of the new monuments, in the period following this catastrophe a new era of construction began. Throughout the period *opus quadratum* remained the common type of construction for monumental structures.<sup>4</sup> Finer varieties of tufa were, however, used and the technique

<sup>1</sup> Hülsen-Carter, *Roman Forum*, pl. V, *Rostra Vetera*. The level of the so-called tomb of Romulus and the square foundation behind it, as well as their type of construction, forbid their inclusion among the oldest monuments of the Forum. The original level of the cippus is uncertain; without this the period is difficult to determine.

<sup>2</sup> The type of construction of the earlier Fons Juturnae is not absolutely certain.

<sup>3</sup> This level is 10.6–10.8 m. above sea-level. A discussion of the levels of the Forum and Velia will be published later.

<sup>4</sup> Less important monuments and private houses were built of sun-dried bricks (*lateres*, *lateres crudi*) until the time of Augustus (Cic. *De Div.* II, 47, 99, Suet. *Aug.* 28, Dio Cass. XXXIX, 61).

reached a high grade of excellence. Peperino and travertine were both introduced in this period, though the latter was as yet employed very sparingly. Foreign marbles were imported also, but not until very late in the period. The most important monument in *opus quadratum* in the period is the Aqua Marcia, built in 144 B.C.<sup>1</sup>

While, however, *opus quadratum* remained the prevailing mode of construction, the period is marked by the first appearance, in Rome, of concrete, or *opus caementicium*, as a structural building material.<sup>2</sup> The exact time of its introduction cannot be fixed. The first dated monuments in which it has as yet been found are the *podia* of the temples of Concord and Castor,<sup>3</sup> of 121 and 117 B.C.<sup>4</sup> The full mastery of technique in the handling of the new material, as shown in these structures, makes it safe to assume, however, that a knowledge of its use antedated by a considerable period the time of their erection. We may, therefore, assign its introduction to the middle, if not the early part, of the second century. The new material was probably introduced in the first place, as a mere core for buildings of *opus quadratum*. With increasing knowledge of the relative value of the two types of construction, however, the parts shifted and the *opus quadratum* became subsidiary in importance, having, often, little value beyond that of a facing. Before the end of the period, for this more expensive type of facing one of small stone was substituted, to which was applied the name of *opus incertum*.<sup>5</sup> The exact date of its recognition as a distinct structural factor cannot be determined. It is clear, however, that it was so regarded before the end of the period, that is, before the time of Sulla.

<sup>1</sup> For a full discussion of the technique of this as well as the more important monuments of the following period, see Delbrück, *Hellenistische Bauten in Latium*, Strassburg, 1907.

<sup>2</sup> The use of *opus signinum* anticipated, doubtless, that of *opus caementicium*. Since it cannot be regarded, however, as a structural building material, it has not been included here.

<sup>3</sup> See Fig. 7; the concrete surrounding the *opus quadratum*.

<sup>4</sup> The date of the existing remains of the temple of Magna Mater on the Palatine is as yet uncertain.

<sup>5</sup> The term *opus incertum* is used by Vitruvius (*l.c.* II, VIII, I), followed by many modern writers, to designate the body as well as the facing of the structure. To avoid confusion, it is here applied only to the facing.

In the mass, or body, of the structure, the monuments of *opus caementicium* throughout the period show but little change, either in materials or methods of construction. The *caementa* consist largely of the broken or rejected materials from the earlier periods. They are, therefore, almost entirely of tufa, *cappellaccio* and grayish yellow tufa being used in large quantities, with a small amount of the later grayish brown and brownish red varieties. No travertine, bricks, or marble appear, and only occasional pieces of peperino. The pieces are usually above medium size, often exceeding in their greatest diameter 40 cm. No order is shown in their disposal in the mass. The mortar is of an ashy gray type and is very friable.<sup>1</sup> The *arena* used in it varies much in color, gray and brown predominating, while red is almost wholly lacking. It resembles a fine gravel rather than the ordinary *pozzolana*, being composed of smooth instead of sharp-angled particles.<sup>2</sup> These particles vary much in size, and a large amount of earthy matter is mixed with them. To this admixture of earthy matter in the *arena*, which is, for this reason, called by Vitruvius<sup>3</sup> *terrosa*, is due mainly the friability, as well as the gray color, of the mortar as a whole. The lime is of a very dirty-white color, due probably to the earthy character of the *arena*; the proportion of lime is also much smaller than in the later periods.<sup>4</sup>

The earliest dated monument in *opus caementicium*, the podium of the temple of Concord (121 B.C.), is, strictly speaking, unfaced, since the pieces of tufa forming the so-called *opus incertum* of the facing do not differ materially, either in themselves or in their arrangement, from the *caementa* in the body of the structure. The facing of the other monuments, so far as it can be determined,<sup>5</sup> is of *opus incertum* made of the friable tufa of the period.

The more distinctive characteristics — the "earmarks" — of

<sup>1</sup> For the mortar of the next two periods, see pp. 247, 249.

<sup>2</sup> Sharpness (*asperitas*) is emphasized by Vitruvius (*l.c.* II, IV, 1, see below, n. 3), as by modern builders, as an essential quality of the best *arena*.

<sup>3</sup> *L.c.* II, IV, 1; *quae autem terrosa fuerit non habebit asperitatem*.

<sup>4</sup> For the proportion of lime in the time of Augustus, see Vitruvius, *l.c.* II, V, 1.

<sup>5</sup> The facing of the temple of Castor has been wholly destroyed. See Fig. 7.



the structures in *opus caementicium* of the period are the following : (1) the very early type of the materials used in the body of the structure as *caementa*, as well as the absence among them of travertine, bricks, and marble ; (2) the ashy color and friability of the mortar ; (3) the use, in the facing, of *opus incertum*, and its early character, as seen both in the materials used and in the technique.

No complete list has been made as yet of the monuments of the period. The most important of them are : the temple of Concord of the second period, the temple of Castor of the second period, the arches behind the Fons Juturnae, and the so-called *Carceres*.

### III. THE PERIOD OF SULLA

Of the works of Sulla as a builder, as well as of the imposing monuments erected by others in his period, a large number are preserved outside of Rome, especially in Palestrina, Tivoli, and Pompeii. The splendid public buildings with which he sought to adorn his capital, on the other hand, are represented only by a few uncertain remains. Of the greater monuments erected by others, also, but one is left, the Tabularium, built by Q. Lutatius Catulus in 78 B.C.

From the character of the monuments erected during the period, it is probable that the majority of them were built wholly of *opus quadratum*. The remains of a goodly number of such monuments, built of the earlier tufas, are, in fact, assigned to Sulla himself, though the proofs are in no case conclusive. In the Tabularium, the only dated monument of the time, both types of construction are used,<sup>1</sup> the substructures and inner walls being of *opus caementicium*. Both types of construction are used also in a small group of monuments in the Forum,<sup>2</sup> which, from their level and structural environment, may be assigned to this general period. No

<sup>1</sup> It is, however, commonly spoken of as of *opus quadratum*.

<sup>2</sup> These monuments are the following : the republican Rostra of the second period (Hilsen-Carter, *Roman Forum*, pl. V, "Rostra Palicani"), the arches behind the Rostra Augusti, and a number of unidentified remains along the Sacra Via. The lacus Curtius of the second period and a number of fine pavements of grayish brown tufa are of this same time : they are, however, wholly of *opus quadratum*.

exact date, however, can be assigned to them at present. They have not, therefore, been included in the present discussion, though they agree, except in type of facing,<sup>1</sup> with the work of the period.

The outer walls of the Tabularium, which, from its agreement in construction with the Sullan monuments outside of Rome, may be accepted as typical of the period, are of *opus quadratum*. The material used is almost wholly peperino, though travertine is employed very sparingly in the colonnade.

The massive substructures and inner walls are, as has been said, of *opus caementicium*. The *caementa* are almost wholly of brownish red tufa, with little admixture of older materials. The pieces vary considerably in size but are usually large. They are laid without special regard to order. The mortar is of the ashy gray type, but is slightly less friable than that of the preceding period. The *arena* is darker in color and a little less *terrosa* than earlier. No change in the lime is perceptible. The walls are practically unfaced.

#### IV. THE PERIOD OF JULIUS CAESAR

With Julius Caesar a new era in Roman construction begins. Succeeding to the great plans of Sulla, he formed even greater ones, spurred on, during the earlier years, by the rival efforts of Pompey to win favor with the people by gifts of magnificent public monuments. With the carrying out of these plans,<sup>2</sup> which included the reconstruction of the Forum, its extension by the erection of the Forum Julium, and the building up of the Campus Martius, a new system of construction gradually arose. The period, however, though marked by this gradual development of new ideas, retained throughout many of the earlier republican methods. It may be called, therefore, the period of transition.

<sup>1</sup> The facing is, in part, of *quasi reticulatum*, which is not found in the Sullan monuments in Palestrina; it is used, however, in certain of the buildings of the period in Pompeii.

<sup>2</sup> A better opportunity for the carrying out of his plans was afforded Julius Caesar by a destructive fire in 54 B.C. (Orosius, VI, 14), which laid waste a considerable part of the city. Too little attention has been paid to this as well as to the other fires of this general period.

*Opus quadratum* without admixture of *opus caementicium* was retained in certain monumental structures, as the Basilica Aemilia, the Tabernae Novae,<sup>1</sup> and the Forum Julium.<sup>2</sup> The materials used almost wholly in these buildings are grayish brown tufa and peperino, with travertine for points of special pressure. In the Basilica and Tabernae, however, the earlier grayish yellow tufa is retained for the foundations. The technique is of a high order. A thin layer of lime is used between the courses to make the fitting of the joints closer. In the larger number of public monuments both types of construction were used, *opus caementicium* being used, as in the Tabularium, for the more massive portions of the structure, while *opus quadratum* was still retained for the external walls and also for the points of special pressure. To this class of monuments belong the theatre and porticus of Pompey, the theatre of Marcellus,<sup>3</sup> and, in all probability, the Curia and Rostra Julia. The dawn of the new era is shown most clearly, however, by the increasing prominence given to the third class of monuments, those made wholly of *opus caementicium*. The most conspicuous examples of this class are the *cuniculi* of the Forum (Fig. 8), the concrete foundation near the Equus Domitiani,<sup>4</sup> and a small group of private houses, of which the earlier Domus Liviae on the Palatine is the most important.<sup>5</sup>

The monuments of the period — so far as it has yet been possible to classify them<sup>6</sup> — which are made wholly or in part of *opus caementicium* may be divided into two classes. These classes are most easily distinguished by the mortar, which, in the one class, is of a gray color, resembling the ashy gray type

<sup>1</sup> The Tabernae Novae were regarded as distinct from the Basilica Aemilia until a much later time than is usually supposed.

<sup>2</sup> The vaults of the rooms, or shops, adjoining the Forum Julium are of *opus caementicium*. Since the foundations of the Forum are inaccessible, the type of construction used in them is uncertain.

<sup>3</sup> The theatre was finished by Augustus.

<sup>4</sup> Hülsen-Carter, *l.c.* 144.

<sup>5</sup> The other members of the group are: the private house on the slope of the Palatine in front of the so-called temple of Jupiter Victor (the lower walls), the house on the Esquiline containing the frescoes representing the *Odyssey* landscapes, and the house near the Villa Farnesina.

<sup>6</sup> For the rooms adjoining the Forum Julium and the theatre of Marcellus the data are not complete.

of the earlier monuments, though a little darker, while in the other class it is grayish red, approaching more nearly the mortar of the Augustan period.

In the body of the structures of the first class the *caementa* are, in large part, of *cappellaccio* and other friable tufas, the refuse material from the earlier periods;<sup>1</sup> a small amount of the later tufa appears, however, and a very little travertine.

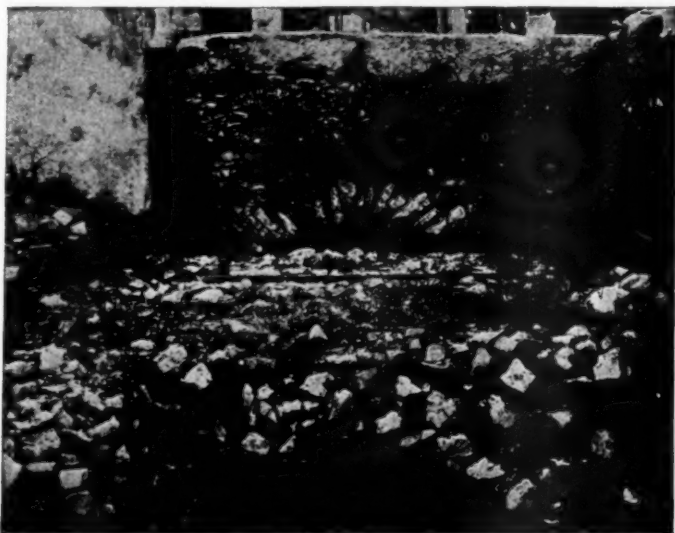


FIGURE 8.—THE CUNICULI AND THE EQUUS DOMITIANI.<sup>2</sup>

No bricks or marble are found. The pieces vary much in size and are laid with no apparent attempt at order.<sup>3</sup> The mortar differs but little in color from that of the Sullan period, but is superior in quality, being of a finer texture and harder. The *arena* is of the same general type as earlier but less *terrosa*.

<sup>1</sup> In the private houses the amount of older material found is much less than in the other monuments.

<sup>2</sup> The arch in the background is a restoration of the vault of one of the *cuniculi*. The foundation of *opus caementicium* in front is that of the *Equus Domitiani*.

<sup>3</sup> In the *Rostra Julia* are found several thin strata of marble chips marking the width of the sections made at one time.

The lime is of a slightly better grade and is more abundant; it retains, however, the dirty-white color of the earlier periods. The monuments belonging to this first class are the foundations of the Curia Julia, the Rostra Julia,<sup>1</sup> the Domus Liviae of the earlier period, and the lower walls of the house below the so-called temple of Jupiter Victor.

In the *opus caementicium* of the second type the *caementa* vary, as in later periods, according to the nature of the structure in which they are used. In the inner walls<sup>2</sup> of the theatre of Pompey they are of the same brownish red tufa of which the facing is made and are of medium size. In the *cuniculi* and the massive foundation near the Equus Domitiani, which is of the same period,<sup>3</sup> the *caementa* are almost entirely of travertine and *selce*, as in the foundations and substructures of the later periods. They are of medium size and are laid with no attention to order. The mortar is grayish red and is almost entirely free from the friability of the earlier type. The *arena* is a true *pozzolana*, consisting of sharp-angled particles, which vary much in size and are often very large. It is but slightly *terrosa*. The color differs greatly from that of the arena of the earlier periods; reddish brown and dark gray predominate, but there is also much red. The lime is much cleaner and more abundant than in the earlier type of mortar.

*Opus incertum* as a facing does not appear in any monument of the period. Its occasional use at a later time is, however, referred to by Vitruvius.<sup>4</sup> In its place appears, in both classes of structures, the more elegant *opus reticulatum*, the rise of which may be assigned to this period.<sup>5</sup> The bits of stone, or tesserae, of which it is formed are very small,<sup>6</sup> measuring

<sup>1</sup> See Van Deman, *The So-called Flavian Rostra*, *Am. Jour. of Arch.* XIII, pp. 178-179, 186.

<sup>2</sup> The foundations of the theatre are not accessible.

<sup>3</sup> The evidence concerning the date, afforded by the level and by the structural relation of the monument to the *cuniculi* and to the Augustan pavement above it, is conclusive.

<sup>4</sup> *L.c.* II, VIII, 1: *Structurarum genera sunt haec, reticulatum quo nunc omnes utuntur, et antiquum quod incertum dicitur.*

<sup>5</sup> According to Nibby (*Roma Antica*, I, p. 275), *opus reticulatum* was first used in the theatre of Pompey.

<sup>6</sup> A tiny tessera recently found measures but 3 cm. across the face.

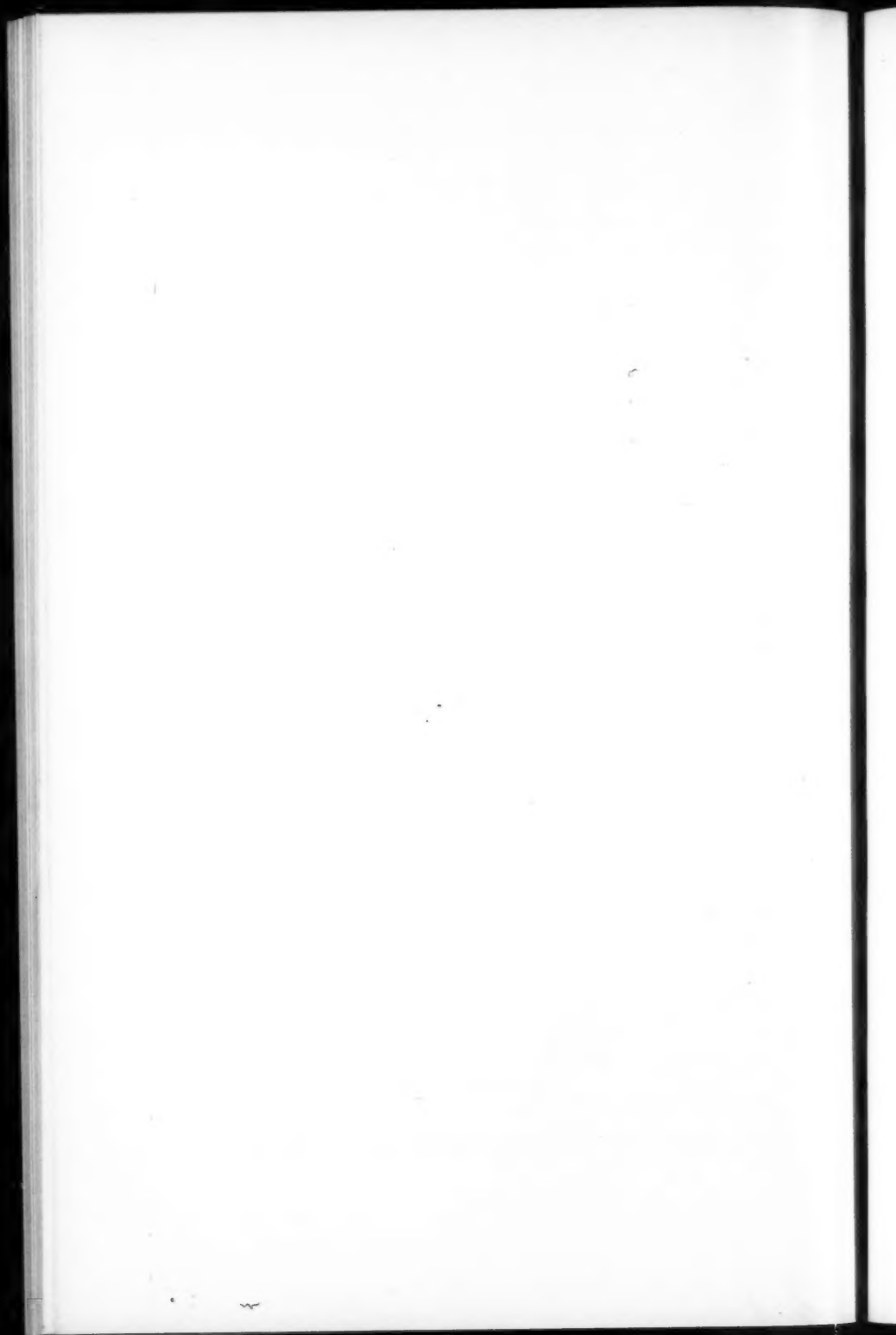
usually 4 cm.-6 cm. across the face. They are made commonly of brownish red, though occasionally of the older grayish yellow tufa. The *cuniculi*, except the sides of the square shafts in the vaulting, and the monument near the Equus Domitiani are unfaced.

The main characteristics of the *opus caementicium* of the period are the following: (1) the darker gray or reddish gray color of the mortar and its freedom from the friability of the earlier type; (2) the appearance of *caementa* of travertine and *selce*; and (3) the use of *opus reticulatum* as facing, as well as the small size of the pieces of stone of which it is composed.

The principal monuments of the period, made wholly or in part of *opus caementicium*, are as follows: the theatre and porticus of Pompey (55 B.C.), the Forum Julium (54 B.C.; the vaults of the adjoining rooms), the Curia Julia (52 B.C.; the foundations), the Rostra Julia, the *cuniculi* (finished by Augustus), the foundation near the Equus Domitiani, the theatre of Marcellus (finished by Augustus), the *Horti Caesaris*, the earlier *Domus Liviae* on the Palatine, the private house on the slope of the Palatine below the so-called temple of Jupiter Victor (the lower walls), the so-called "house of the Odyssey landscapes," and the house near the Villa Farnesina.

ESTHER BOISE VAN DEMAN.

ROME, ITALY,  
March 15, 1912.





1911  
July-December

## ARCHAEOLOGICAL DISCUSSIONS<sup>1</sup>

### SUMMARIES OF ORIGINAL ARTICLES CHIEFLY IN CURRENT PUBLICATIONS

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#### GENERAL AND MISCELLANEOUS

**Ancient and Modern Harness.**—In *B. Soc. Ant. Fr.* 1911, pp. 145-150, Commandant LEFEBVRE DES NOËTTES shows that ancient harness was essentially the same all over the ancient world, and far inferior to that in use to-day. The ancient horse pulled by means of the collar, the yoke, and the pole, and was thus able to use but a small part of his strength. A horse in modern harness at a trot has twice the pulling power of a span of horses in antiquity; while a team of draught horses pulling a modern truck may have as much as sixty times the power of an ancient team. With the introduction of modern harness in the tenth century the real strength of the horse was utilized for the first time.

**The Dating of the Encomi Finds.**—The Mycenaean necropolis at Encomi (Salamis), in Cyprus, was excavated in 1896 by an English expedition and is dated by A. S. Murray at about the year 800 B.C., largely on account of resemblances to Assyrian art. A more detailed examination of the contents of the separate graves, however, shows that they are by no means all of one era, some being as early as the beginning of the second millennium B.C. A large number of objects of Egyptian and Cretan origin are definitely dated in the fifteenth, fourteenth, and later centuries, and none can be certainly placed later than 1000 B.C. There seems to be no foundation for the Assyrian analogies. (F. POULSEN, *Jb. Arch. I.* XXVI, 1911, pp. 215-248; 31 figs.)

**The Bastarnae.**—In *Jh. Oest. Arch. I.* XIV, 1911, Beiblatt, cols. 61-76, O. FRIEBIGER publishes notes on the Bastarnae, a Germanic people who appeared on the north coast of the Euxine in the second century B.C.

<sup>1</sup> The departments of Archaeological News and Discussions and of Bibliography of Archaeological Books are conducted by Professor BATES, Editor-in-charge, assisted by Professor C. N. BROWN, Miss MARY H. BUCKINGHAM, Mr. L. D. CASKEY, Professor HAROLD R. HASTINGS, Professor ELMER T. MERRILL, Professor FRANK G. MOORE, Professor CHARLES R. MOREY, Dr. JAMES M. PATON, Professor LEWIS B. PATON, Professor A. S. PEASE, Professor S. B. PLATNER, Dr. N. P. VLACHOS, Professor ARTHUR L. WHEELER, and the Editors, especially Professor MARQUAND.

No attempt is made to include in this number of the JOURNAL material published after December 31, 1911.

For an explanation of the abbreviations, see pp. 160-161.

**The Influence of Persian upon Japanese Art.** — In *C. R. Acad. Insc.* 1911, pp. 386-399 (pl.; 2 figs.), M. DIEULAFOY shows that a covered silver pitcher from the temple of Hôryôji, near Nara, Japan, dating from the seventh century A.D., is a Chinese work copied from a Persian model. He also cites other evidence to show the influence of Persian art upon the early art of China and Japan.

**The Monolithic Pillars of Asoka.** — In *Z. Morgenl. Ges.* LXV, 1911, pp. 221-240, V. A. SMITH gives a list, as full and accurate as possible, of all the surviving Asoka columns, as well as of those known or believed to have existed once or to exist now. The column and adjoining *stûpa* and temple were erected to mark that most sacred spot, where "the Wheel of the Law was first turned," or, in plain language, Buddhist doctrine was publicly preached for the first time. The wheel, therefore, was an obligatory symbol. The four lions, back to back, guarded the north against the demons and also symbolized the Master of the Law. Thus they were properly placed supporting the wheel. The four quadrupeds in bas-relief on the abacus plainly meant that the monument was under the protection not only of the guardian of the north, but also under that of the wardens of all the four quarters. They further meant that the proclamation of the Good Law was the concern and blessing of the Church of the whole world.

**Quaternary Man in Central Africa.** — In *C. R. Acad. Insc.* 1911, pp. 313-318 (2 figs.), Dr. CAPITAN calls attention to a large collection of palaeolithic implements found in the desert 400 km. north of Timbuctoo. They correspond exactly with implements of the quaternary period in Europe and are undoubtedly contemporaneous with them. The desert was at that time fertile and not unlike southern Europe.

**Prehistoric Weapons among African Tribes.** — In an article on the connection of primitive weapons still used among African tribes with those of prehistoric times (*Z. Ethn.* XLIII, 1911, pp. 240-260; 16 figs.), L. RÜTTMEYER emphasizes the light often cast on prehistoric times by folk-lore, ethnography, and ethnology. He describes spears with bone and horn points, boomerangs, sticks, and clubs used as missiles, slung-stones used as hammers or as weapons, sticks grasped by the middle and used as shields, stone pestles, petrified *echini* as amulets, stone vessels, etc. Herodotus (VII, 69) refers to Ethiopians who used spears tipped with antelope horns, and arrows with stone heads. They had the woolliest hair, he says, of all men. These weapons indicate a remote connection between the cultures of Africa and Australia.

## EGYPT

**An Inscription of Amen-em-hat III.** — In *Ber. Kunsts.* XXXIII, 1911, cols. 40-46 (fig.), H. SCHÄFER discusses a finely preserved inscription on a limestone slab from the temple of Sobk at Crocodilopolis, now in the Berlin museum. It dates from the time of Amen-em-hat III.

**A Portrait of an Officer of Thutmosis III.** — In *Ber. Kunsts.* XXXII, 1911, cols. 185-189 (2 figs.), H. SCHÄFER publishes a seated statuette, 76 cm. high, of an officer of Thutmosis III. It is of an alabaster-like limestone and wonderfully preserved, but can hardly be called a great work. It is now in the Berlin museum.

**Monuments from the Theban Necropolis.**—In *Sitzb. Berl. Akad.* 1911, xlviii xlix, pp. 1086-1110 (pl.), ADOLF ERMAN publishes and discusses a stele from the necropolis of Thebes now in the Berlin museum (No. 23077). It bears an inscription in praise of Amon Re, signed by Nebre, painter of Amon in the Necropolis, and by his son Chai. (See *A.J.A.* XVI, p. 136.) Nine other similar inscriptions are published. From these and other sources the religious beliefs and sentiments of artisans of the time of the nineteenth dynasty are learned. The god was regarded as kindly, well-disposed to the humble, but offended by the proud and the wicked, punishing sin by illness and blindness, but by nature gracious and ready to aid those who call upon him.

**The Hyksos in Egyptian Tradition and in History.**—In *J. Asiat.* XVI, 1910, pp. 507-580, R. WEILL continues the discussion of the history of the Hyksos begun in previous numbers of the same journal, taking up the account of the exodus of the unclean as found in Manetho and the Alexandrian literature. He gives a comparative table showing the development of the tradition in later Egyptian literature, and endeavors to ascertain its primitive form. This is followed by a discussion of the old Egyptian sources which confirm the truth of this tradition.

**Interpretations of Seketu, Kefeth, Ash.**—In *R. Arch.* XVIII, 1911, pp. 264-267, CECIL TORR identifies *Seketu* of an Egyptian inscription with Shigati (Τῡγαρος, Gigarta) in Phoenicia and *Kefeth* (or *Kefet*) with the city called Akbatana on the promontory of Mount Carmel. He also shows that the tree called *ash* in Egyptian was not the cedar, but a native Egyptian tree which produced an unguent as well as timber.

**Notes on Some Egyptian Monuments.**—In *S. Bibl. Arch.* XXXIII, 1911, pp. 197-203 (3 pls.), A. WIEDEMAN discusses some Egyptian representations of the hippopotamus, bull, squatting monkey, and ornaments and trinkets of women.

**Decoration of Egyptian Coffins.**—In *S. Bibl. Arch.* XXXIII, 1911, pp. 162-170 (3 pls.), A. WIEDEMANN states that the Egyptian monuments make it possible to follow the development of the decoration of the breast of the coffin. Originally it was reserved exclusively for the king, Antef for example, who had a right to the crowns of Upper and Lower Egypt. Later, the tutelary divinities were ascribed to the members of the royal family also, but this ascription sometimes led to the neglect of their primary signification. At last the meaning of the picture was quite forgotten, the two heads which represented the two countries disappeared, only the tutelary vulture remained, unless it had to give way to Nut. With the increasing importance of the Osirian conceptions was also connected the progressive substitution of the coffin in human form as it appears in the *rischi* coffins, for the old coffin in the form of a chest, or rather of the *magazine-tomb*. A compromise between the two conceptions is made when the deceased has two coffins, the inner one in the form of the mummy, the outer one in that of a chest.

**Egyptian Gold Work.**—In *Ber. Kunsts.* XXXII, 1911, cols. 189-191 (5 figs.), MÖLLER publishes several objects of gold now in the Berlin museum. The most important is a seal cylinder of the Old Kingdom bearing the name of Mycerinus. A man-headed hawk with back and wings inlaid with lapis lazuli and turquoise dates from about 600 B.C. and is of great beauty.

Three small figures representing Sachmet, Anubis, and a king wearing the crown of Upper Egypt, date from the fifth or sixth century B.C.

**An Addition to the Senmut-Fresco.** — In *B.S.A.* XVI (session 1909-1910), pp. 254-257 (frontispiece; pl.), H. R. HALL publishes a partly colored drawing by the late Mr. Robert Hay of the well-known fresco in the tomb of Senmut at Thebes. The drawing was made about 1837, and gives the most important parts of the painting in water color. Parts of three more figures are seen than exist at present in the tomb. The first holds a large-footed bowl, the second an ewer, the third a great sword.

**A Clay Sealing from Egypt.** — In *B.S.A.* XVI (session 1909-1910), pp. 290 f. (fig. in pl. and fig. in text), H. B. WALTERS describes a clay seal for a wine jar, which was acquired in Egypt. (*Brit. Mus. Cat. of Terracottas*, p. 443, No. E 93.) On the seal are impressions of two gems, one a bearded head with the inscription *ἀγαθὸς δέμῳ* ascribed to the end of the second century A.D., the other representing a lion attacking a goat, hardly later than the beginning of the Christian era. The under side of the seal shows the marks of a cloth. Evidently the method of sealing wine jars in use in the Mycenaean Age was still practised in Egypt under the Roman empire.

**The Legend of Osiris.** — In *S. Bibl. Arch.* XXXIII, 1911, pp. 139-154 (4 pls.), F. LEGGE states that from the age of the pyramids down to that of the Ptolemies and the Caesars, there was worshipped in Egypt a god whose cult extended over the whole country, and never seems to have depended upon any priestly corporation or college. This was Osiris, the god of the dead, who differs from all the other Egyptian gods in that he had a complete legend which set forth all his history, his parentage, birth, marriage, death, and resurrection. There are two elements in it, which have no necessary connection with each other. The earliest of these is the war between Horus and Set, which, until the last few years, seemed to be entirely allegorical. But, since M. Amélineau's discovery of the tombs at Abydos, we see that the war between Horus and Set probably took place well within historic times, and not very long before the building of the pyramids. The other element in Plutarch's story was not originally Egyptian. The worship of Osiris was brought into Egypt from the shores of the Mediterranean, probably from Libya. The original home of the Osiris myth was Babylonia.

**Phoenician and Aramaic Inscriptions from Abydos.** — In *Eph. Sem. Ep.* III, 1911, pp. 93-116 (4 pls.), M. LIDZBARSKI publishes new copies of the graffiti on the walls of the temple of Osiris at Abydos, which hitherto have not been copied with sufficient accuracy to be used scientifically. They were carved by pilgrims to the shrine of Osiris, who hoped by leaving these memorials of themselves to secure as favorable a place in the other world as if they had been buried in the neighborhood of the god.

**Aramaic Papyri and Ostraka in the Museum at Cairo.** — In *Eph. Sem. Ep.* III, 1911, pp. 117-132 (15 figs.), M. LIDZBARSKI publishes eighteen hitherto unpublished Aramaic papyri and ostraka from the museum in Cairo, containing votive inscriptions and business memoranda of various sorts.

**An Aramaic Ostrakon from Elephantine.** — In *S. Bibl. Arch.* XXXIII, 1911, pp. 183-184 (pl.), A. H. SAYCE publishes an ostrakon that was found by the natives in the mounds of Elephantine some years ago. It is especially interesting on account of its reference to the Passover.

**The Jewish Papyri of Elephantine.** — In *Exp. Times*, XXII, 1911, pp. 92-93, A. H. SAYCE describes the additional papyri, more or less mutilated, which are now edited by Professor Sachau. These consist of official and private letters, of lists of persons, with the amount of silver — 2 shekels per man — each had to pay "to the god Yeho," of business documents, of ostraka and similar texts, and of two literary compositions of the highest interest and value. One of these is an Aramaic copy of the Behistun inscription of Darius I, in which the Persian monarch gives an account of his reign; the other is nothing less than the romance of Abiqa, the wise man of the East (called Achiacharus in the Book of Tobit), which is thus shown to have been a work of far older date than has hitherto been supposed. One of the most curious facts that have resulted from the discovery and decipherment of the papyri is that the Jewish settlement at Elephantine and Assuan was a military colony.

**Prehistoric Pottery from India and from Egypt.** — In *Sitzb. Mün. Akad.* 1911, 6, pp. 1-22 (3 pls.), FR. W. v. BISSING discusses specimens of prehistoric pottery from India and from Egypt which are remarkably similar but cannot, on account of their dates and of other circumstances, indicate any connection or intercourse between those countries. He points out the danger of assuming such relations on the ground of mere similarity of a limited number of objects without due regard paid to historic facts.

**Egyptian and Egyptizing Objects found in Southern Russia.** — In *R. Arch.* XVIII, 1911, pp. 20-35 (23 figs.), B. TOURAIEFF describes and discusses Egyptian and Egyptizing objects (scarabs, scaraboids, figurines, vases, amulets, etc.) found in southern Russia. None of them is of very great interest in itself, but collectively they show that small objects of Egyptian manufacture (or, in some cases, probably Phoenician imitations) were prized during the Saïte, Ptolemaic, and Roman periods in southern Russia as far inland as Kiev. The introduction of Egyptian cults is probably not entirely responsible for this; the objects were prized as works of art also.

**The Number 6475 in the Greek Cities of Egypt.** — In *R. Arch.* XVIII, 1911, pp. 256-263, GUSTAVE GLOTZ explains the number 6475 which occurs in an inscription from Talit (Petrie, *Illahun, Kahun and Gurob*, pl. XXXII, pp. 29 f.; Dittenberger, *Or. Gr. inscr. sel.*, No. 668, etc.) and a papyrus (C. Wessely, *Studien f. Paldogr. u. Papyruskunde*, IV, p. 69, col. vi, ll. 91-92; *Topogr. des Faijum in gr. Zeit.* in *Denkschr. d. kais. Akad. d. Wiss. in Wien*, phil.-hist. Klasse, L (1904), p. 27), as the total of 7200 citizens (720 phratries) less the 725 dignitaries. Analogies are found in Greek cities outside of Egypt.

**Alexandrian Statuettes of Aphrodite.** — In *Jh. Oest. Arch.* I, XIV, 1911, pp. 112-120 (10 figs.), A. HEKLER publishes a nude bronze statuette of Aphrodite with a headdress in the form of a vulture now in a private collection in Budapest. It represents Iais-Nechbet-Aphrodite. He compiles a list of twenty other figures of the goddess, some nude and some draped, having this peculiar headdress.

**Coptic Book Bindings.** — The Berlin museum acquired in 1896 four leather bindings of Coptic books, two of which are published by IBSCHER (*Ber. Kunsts.* XXXIII, 1911, cols. 46-52; 3 figs.). In one case an intricate pattern consisting of circles, squares, hearts, etc., was cut out of a piece of

red brown leather and this placed over a piece of yellowish leather and fastened upon a stiff backing made of papyrus. The second cover was simpler, consisting of a geometric design with pieces of white leather set in. Coptic writing on the waste papyrus used in the backing for the leather dates from the end of the eighth century, so that the bindings date from about 800-850 A.D. They were probably made in a Coptic monastery, and are important for the history of book-binding.

### BABYLONIA, ASSYRIA, AND PERSIA

**Tablets from Kiš.**—F. THUREAU-DANGIN publishes in *Rev. d'Ass.* VIII, 1911, pp. 68-79, six tablets from Kiš, said to have been found at Ahimer, the El-Ohémir of Ker Porter, a mound east of Babylon on the ancient canal Shatt en-Nil. The frequent occurrence of the god Zamama, both in the proper names and in the oaths of these tablets, affords internal evidence for the identification of Ahimer (Ohémir) with ancient Kiš, the seat of the oldest Semitic dynasty in Sumer and Akkad. See also *S. Bibl. Arch.* XXIII, 1911, pp. 128-129, notes by C. H. W. Johns. In addition to this, in *S. Bibl. Arch.* XXXIII, 1911, pp. 185-196 (9 pls.), S. LANGDON publishes thirty-one tablets from Kiš. From this material we are enabled to gain some information regarding the relations of Kiš to the rising dynasty of Babylon. The struggle for supremacy between Babylon and Kiš must have been severe, for as early as the tenth year of Sumu-abu we have a tablet dated by the formula of this king, which shows that he was recognized at Kiš.

**The Reign of Arad-Sin, King of Larsa.**—Inscriptions of Arad-Sin and of Rim-Sin have long been in the hands of Assyriologists. In *S. Bibl. Arch.* XXXIII, 1911, pp. 204-212; W. T. PILTER reviews the contents of all the inscriptions of both kings that have so far been published, and discusses the questions: (1) Were Arad-Sin and Rim-Sin separate persons, or were the two names held—at different times, or it may be, in different places—by the same ruler? (2) Was the determinative of divinity placed before the personal element in Rim-Sin's name as the result of his conquest of the old royal city of Ísin? (3) And was that conquest the same as that of the seventeenth year of Sin-muballit, the father and predecessor of Hammurabi?

**A Letter of Rim-Sin, King of Larsa.**—In *S. Bibl. Arch.* XXXIII, 1911, pp. 221-222 (pl.), S. LANGDON gives a letter of Rim-Sin, the powerful rival of Hammurabi (2130-2088 B.C.), and of Samsu-iluna (2087-2050 B.C.). This is the first document of the kind thus far known from this king. The letter most probably refers to the wars against Babylon in the latter part of the reign of Hammurabi.

**Semiramis.**—In *Or. Lit.* XIV, 1911, col. 388, A. UNGNAD claims that the usual identification of Semiramis in Greek legend with Sammuramat, the wife of Samsi-Adad, does not do justice to the fact that she is represented as a queen of the most ancient period. Elements in the tradition are derived from Queen Azag-Bau, who is known to have been an independent sovereign of the third millennium B.C.

**The Babylonian List of Gods An (= ilu) Anum.**—In *Sitzb. Sachs. Ges.* LXIII, 1911, iv, pp. 83-125, H. ZIMMERN discusses the list of gods from the library of Assurbanipal (King, *Cuneiform Texts*, 24, 25), which is



of Babylonian origin. He shows that it forms tablets I-VI of a series and points out its relation to other tablets of the same series, besides offering various notes and emendations and giving in tabular form the contents of the six tablets.

**The Babylonian Calendar in the Reigns of Lugalanda and Urkagina.**—In *J.A.O.S.* XXXI, 1911, pp. 251-271, G. A. BARTON states that within the past three years a large number of documents from the temple archives of Telloh, dated in the reigns of Lugalanda and Urkagina have been published, and that these documents show that the calendar of the period which they represent was, in some respects, different from the calendar of the time of Sargon, or of the dynasty of Ur, or of Hammurabi, or of the later periods. For the most part, the names of the months in the time of Lugalanda and Urkagina were taken from agricultural processes and the agricultural festivals connected with them. There is but one exception to this; one month is named from a star. The names had not yet crystallized into one conventional form. Several of them are expressed in a great variety of ways. Two or three of these names have survived into later times, as have fragments of several others.

**The Elamite Venus-Year.**—In *Memnon*, IV, 1910, pp. 83-106, F. BORK attempts to show that there existed in ancient Elam a year that was determined by the synodical period of the planet Venus, and that this Venus-year was more ancient than the lunar year. It was identical with the Mexican Venus-cycle, the so-called *Tonalamatl*. It is impossible to believe in an independent discovery of these similar cycles, but in some way the Mexican year must have been brought to America by the migration of a people from Central Asia, who had become acquainted with the Elamite calendar. *Ibid.* V, 1911, pp. 29-40, E. WEIDNER publishes a transcription and translation of a Babylonian text, which shows that a Venus-year of 584 days was known to the Sumerians and the Babylonians from the most ancient times. *Ibid.* V, 1911, p. 81, F. HROZNÝ claims that the facts adduced by Bork are insufficient to prove that the Elamites had a Venus-year, and that the comparison with the ancient Mexicans is accordingly superfluous. To this Bork replies p. 99.

**Babylonian Measurement of the Fixed Stars.**—In *Or. Lit.* XIV, 1911, col. 345-346, E. WEIDNER examines a Babylonian measurement of the distance in degrees between two of the fixed stars, and comes to the conclusion that this observation was made in the year 1993 B.C. and that the measurement shows a surprising degree of exactness.

**The Babylonian Zuharu.**—In *S. Bibl. Arch.* XXXIII, 1911, pp. 121-127, S. LANGDON states that the class-name *zuharu*, fem. *zuhartu*, appears to be confined to the period of the first dynasty, occurring also on Cappadocian tablets, which are now known to belong to that period. Assyriologists have universally taken the word for *zuharu* and translated "youth" and "maiden." *Zuharu*, which never occurs as *zuharu*, means most certainly "agent, messenger."

**A Babylonian Cylinder-Seal.**—In *S. Bibl. Arch.* XXXIII, 1911, pp. 213-220 (pl.), T. G. PINCHES describes a seal bearing representations of two gods. The winged female figure, standing on the mount, is Ištar. The striding deity, apparently about to mount the rock, is probably the god Ea or Aa, the original creator. The tree on Ištar's right is probably symbolical of



the tree of life, and its four branches suggest some connection with the "four heads" of the river of paradise, as described in Genesis 2. The bifrons on the extreme right is probably simply a divine attendant, while the warrior-god on the extreme left may possibly be Nergal, followed by a lion as one of his attendant animals.

**An Elamite Cylinder in Paris.**—In *R. Arch.* XVIII, 1911, pp. 36-38 (fig.), L. DELAPORTE publishes a cylinder which has been in the Bibliothèque Nationale for half a century (No. 765 in Chabouillet's *Catalogue*; No. 503 in the *Catalogue des Cylindres de la Bibliothèque Nationale*). On it a seated goddess is represented, and a second goddess stands with raised hands before her. The inscription names the owner Pililišube, daughter of Kuk-kuri. She calls herself servant of the god Gal and of his goddess U-pi-ir-ku-ba-ak.

**A Divine Lament.**—In *J.A.O.S.* XXXI, 1911, pp. 395-402, J. D. PRINCE discusses the lament published in *C.T.* XV, Plates 24-25. It was written and sung by the priests of Nanā, whose image was taken by the Elamites in 2270 B.C., according to the Prism Inscription of Assurbanipal. Assurbanipal in 635 B.C. retook and restored the image to its original habitat in Uruk amid great rejoicings at his pious act.

**Sumerian Hymns and Prayers.**—In his *Sumerian Hymns and Prayers to the God Nin-ib* H. RADAU discusses the development of the religion of the Sumerians and particularly the god Nin-ib in his various aspects; and publishes thirteen tablets from Nippur now in the University of Pennsylvania museum. These are hymns and prayers to Nin-ib. Photographic facsimiles and transcriptions, as well as a transliteration and translation with commentary of five of the tablets, are included in the volume. [The Babylonian Expedition of the University of Pennsylvania. Series A: Cuneiform Texts. Ed. by H. V. Hilprecht, Vol. XXIX, Pt. 1. *Sumerian Hymns and Prayers to the God Nin-ib from the Temple Library of Nippur*. By HUGO RADAU. Philadelphia, 1911, University of Pennsylvania. viii, 88 pp.; 21 pls. 4to. \$3.]

**Babylonian Hymns and Prayers.**—Under the title *Babylonian Hymns and Prayers* (Philadelphia, 1911, University Museum, 12 pp.; 47 pls.) D. W. MYHRMAN publishes in photographic reproduction and transcription eighteen tablets engraved with hymns and prayers in the museum of the University of Pennsylvania. Of these, eleven found at Nippur are with two exceptions in Sumerian, one is in Sumerian and Semitic Babylonian; the remaining seven, purchased in London, are in Semitic Babylonian. They date from the third millennium and later. The writer promises a translation and commentary.

**The Date of Sennacherib's Campaign against Hilaku.**—It is commonly assumed that the expedition against Hilaku recorded in the newly discovered prism of Sennacherib occurred in the year 698 B.C., but in *Or. Lit.* XIV, 1911, col. 344, K. TALLQVIST shows that this expedition occurred in the eponymate of Shulmu-Bel, which fell in the year 696 B.C.

**The Murder of Sennacherib.**—In *S. S. Times*, LIII, 1911, p. 395, A. UNGNAD calls attention to a new inscription of Sennacherib which clears up the difficulties in regard to the assassination of Sennacherib by his two sons in the narrative of 2 Kings 19: 36, 37.

**Supplementary Material for Assyrian Syllabaries.**—The important syllabaries S<sup>a</sup>, S<sup>b</sup>, S<sup>p</sup>, and S<sup>c</sup> have lately been published by Thompson in *Cuneiform Texts*, XI and XII, and have been supplemented by F. Thureau-

Dangin in *Z. Assyriol.* and by Meissner in *Mitt. Vorderas. Ges.* XV, 5. In *Z. Morgenl.* XXVI, 1911, pp. 127-152, V. CHRISTIAN gives considerable new material for the correction and supplementing of these lexical texts that has appeared since the time of their first publication.

**Inscriptions from Seleucia Pieria.**—In *Mél. Fac. Or.* V, 1911, pp. 329-333, L. JALABERT publishes two inscriptions from Seleucia Pieria, one in honor of a certain Flavia or Flavianus—the broken condition of the text makes it impossible to decide which is meant—the other containing the inscription *C. Opellio Zmaragd[o]*.

**The Cuneiform Inscriptions on the Tomb of Darius Hystaspis.**—In *Abh. Sächs. Ges.* XXIX (No. I), 1911 (54 pp.; 8 pls.; 11 figs.), F. H. WEISSBACH publishes the cuneiform text, a transliteration, and a translation of the cuneiform inscriptions on the tomb of Darius Hystaspis. The publication of the text is preceded by a historical sketch and a brief description of the tomb and its inscriptions.

## SYRIA AND PALESTINE

**The Archaeological Exploration of Palestine.**—In *J. Bibl. L.* XXX, 1911, pp. 1-17, D. G. LYON discusses the opportunities and problems that confront the excavator in Palestine. Many of the *tells* are now occupied by houses that interfere with their exploration. The Turkish law in regard to antiquities is also a cause of numerous difficulties and delays, but in spite of these obstacles much has been accomplished by the expeditions which have been sent to Palestine by the various countries of Europe and America during the last twenty years. Most important results have been obtained in the Canaanite levels of the mounds. We have now gained a clear impression of the life and civilization of the Canaanites and of the process by which they mingled with the Israelites. For the later periods the results have been less important, but still not without interest. The chief work that still remains to be done is the exploration of fortresses and churches left by the Crusaders, of Jewish synagogues, and of the great fortresses of the Roman period.

**The Influence of Aegean Civilization upon Egypt and Palestine.**—In *Mitt. Vorderas. Ges.* XVI, 1911, 2, pp. 1-104 (54 figs.), R. VON LICHTENBERG shows that the abundant Aegean remains, distributed through several centuries, that have been found in Egypt and Palestine prove the great importance of the Aegean civilization and its strong influence upon the neighboring civilizations. In Palestine, along with native types, Mycenaean-Cypriote motives lasted for a long time after they had disappeared from the Mycenaean civilization in the Mediterranean. On the other hand, foreign influences upon Aegean civilization are of less importance, but they contribute to confirm the conclusion reached in other ways in regard to the age of that civilization.

**The Name of the King of Jerusalem in the Tell el-Amarna Letters.**—The name of the king of Jerusalem in the Tell el-Amarna letters is ordinarily read Abd-hiba, but in *Or. Lit.* XIV, 1911, col. 341-343, A. GUSTAVS shows that Hiba is the same as the Mitannian goddess Hepa, and that accordingly the ideogram for "servant" in this name should probably be read as Mitannian rather than Canaanite. In the language of Mitanni the

name for servant is *put* and the masculine termination is *i*, accordingly the name of this king should be read Put-i-Hepa.

**Bir-idri = Ben-Hadad.**—In *Exp. Times*, XXII, 1911, pp. 370-372, P. S. P. HANDCOCK asserts the extreme improbability of the generally accepted identification of Benhadad, Ahab's contemporary, and the so-called "Bir-idri" of Shalmaneser's inscription. The unnamed king of Syria in 1 Kings 22, by whom Ahab was defeated and slain at Ramoth-gilead, was Hadad-ezer, an entirely different personage from the comparatively impotent Benhadad of 1 Kings 20. *Ibid.* XXII, 1911, pp. 68-69, S. LANGDON holds that Ben-Hadad in the Hebrew sources, corresponds to the Assyrian *IM-id-ri*. The only way out of the difficulty of the difference of names is to go back to the interpretation of Winckler and Delitzsch, now held also by Zimmern, and read the Assyrian name as *Bir-id-ri*. A new inscription which he transcribes favors this solution of the problem, and, perhaps, firmly establishes *Bir-adar* in place of the extremely doubtful Ben-Hadad.

**The "Field of Abram" in the Geographical List of Sheshonk I.**—In *J.A.O.S.* XXXI, 1911, pp. 290-296, J. H. BREASTED replies to the claim of M. G. Kyle, *ibid.* 1910, pp. 86-91, that the identification of the second portion of the name as Abram, "scarcely comes within the bounds of possibility." He shows that none of the objections offered by Kyle cause any difficulty, and he is, therefore, still inclined to see in the word the earliest occurrence of the name Abram.

**The Inscriptions of King Kalamu.**—In *Sitzb. Berl. Akad.* 1911, xlv, xlvii, pp. 976-985, E. LITTMANN gives the text (in Hebrew characters) and a literal translation, with notes, of the inscriptions of King Kalamu (F. von Luschan, *Ausgrabungen von Sendscherli*, Heft XIV of *Mitteilungen aus den Orientalischen Sammlungen der Kgl. Museen zu Berlin*), which are among the earliest known inscriptions in Semitic alphabetical writing. The two inscriptions are virtually one, telling of the greatness of Kalamu. The language is Phoenician with some Aramaic elements. Further notes are published by C. BROCKELMANN, *ibid.* li, lii, liii, pp. 1142-1146.

**The God Ashima of Hamath.**—In *Exp. Times*, XXII, 1911, p. 93, F. HOMMEL discusses Ashima mentioned in 2 Kings 17:30 as a God of Hamath. In all Aramaic-speaking countries a vocalization of the dental nasal into the simple *spiritus lenis* is very common, so that, in connection with Ashima, it is natural to think of the well-known god Eshmun. This would then be a feminine form (Ashmatt from Ashmant, or Eshmunt from Eshmunt). In Am. 8:14 the same deity is mentioned, "They that swear by the *Ashmat* of Samaria, and say, As thy God, O Dan, liveth."

**Rahab.**—In *Exp. Times*, XXII, 1911, pp. 423-424, C. MOXON holds that the Rahab passages in the Old Testament find their final explanation only in the myths about Tiamat. If this be granted, the question remains whether the mythic slaying of Tiamat was alone referred to in these poems. It is more in accord with the Hebrews' way of adapting the myths and customs of their neighbors to suppose that they would connect the Tiamat narrative with their national history. An examination of the relevant passages makes it appear probable that in some of them the Rahab-Tiamat myth is connected with the crossing of the Red Sea.

**The Sepulchral Monument "Masgeba."**—In *J. Bibl. L.* XXX, 1911, pp. 109-113, B. D. ERDMANS states that according to primitive religious

belief, the soul, embodied in the breath, leaves the body of a dying man. The soul, however, remains in the neighborhood of the corpse, and is near the grave, at least during the first weeks after the burial. Now it is necessary that this soul have a place of rest, in order not to be compelled to wander about. It must receive food and drink at proper times, and is supposed to do mischief to the surviving relatives if no shelter and food are offered. The *masseba* is easily explained as a house for the soul. Therefore the name of the deceased person is inscribed upon it; and the monument itself is called "soul." The male form was chosen for the graves of men, the female form for the graves of women.

**Some Early Amulets from Palestine.**—In *J.A.O.S.* XXXI, 1911, pp. 272-281 (2 pls.), J. A. MONTGOMERY describes three Hebrew amulets found at Irbid in the Hauran and belonging in date to about the second to the fifth centuries A.D.

**The Samaritans in the Jewish Aramaic Papyri from Elephantine.**—In *S. S. Times*, LIII, 1911, p. 601, J. A. MONTGOMERY gathers from the recently published Assuan papyri the materials that throw light upon the origin and history of the Samaritans.

**Meaning of Selah.**—In *Exp. Times*, XXII, 1911, pp. 374-377, P. HAUPT claims that *Selah* is connected with the Hebrew verb *saldl*, which means originally "to throw." The noun *selah* denotes throwing down, prostration in adoration.

**An Old-time Savings Bank from Moab.**—In *Pal. Exp. Fund*, XLIII, 1911, pp. 195-196 (fig.), A. FORDER tells of a small earthenware jar, seven and a half inches high, five inches wide, and at the bulge four and one-quarter inches across. The jar when found contained over fourteen hundred pieces of money of different sizes. Most of the coins were badly worn and very rusty, but some are well preserved and are of the time of Constantine.

**The Walls of Jerusalem.**—In *S. S. Times*, LIII, 1911, p. 586, L. B. PATON discusses the location of the walls of ancient Jerusalem in the light of the most recent archaeological discoveries.

**The Costume of Hebrew Women in the Time of Isaiah.**—In *Or. Lit.* XIV, 1911, cols. 390-391, S. DAICHES shows that the dress of the Hebrew ladies described in Is. 3: 18-23 is identical with that of the goddess Ishtar as described in the epic of Ishtar's descent to Hades. The costume of Ishtar was that of the Babylonian ladies, and this shows that Babylonian fashions prevailed in Jerusalem in the time of Isaiah. These considerations have an important bearing on the genuineness of the passage in Isaiah.

**Inscriptions from el-'Ola.**—In *Eph. Sem. Ep.* III, 1911, pp. 207-216, M. LIDZBARSKI publishes four inscriptions that were brought from el-'Ola by the Mecca Railway to Damascus, and copied there by the Rev. Mr. Hanauer. One is Minaean; the other three are ancient North Arabic.

**Palmyrene Inscriptions.**—In *Eph. Sem. Ep.* III, 1911, pp. 132-157 (pl.), M. LIDZBARSKI publishes a collection of new Palmyrene funerary inscriptions from the museum in Constantinople, Damascus, Cairo, and the museum of the Syrian Protestant College in Beirut, and also a collection of tesserae from the museum of the Syrian Protestant College.

**A Sacred Galley on Tyrian Coins.**—In *B. Soc. Ant. Fr.* 1911, pp. 152-155, J. TOUTAIN calls attention to a series of Tyrian coins upon which on the reverse Astarte appears standing on the bow of a galley, with such

an inscription as *Τύρον ἱερὰς ἀσπίλου*, or *Τύρον ἱερὰς μητροπόλεως* above, and the three Phoenician letters for Tyre. In Arrian's *Anabasis*, II, 24, 6 there is an account of a sacred ship which Alexander captured at Tyre and rededicated to Melkart, and the writer suggests that this is the ship represented on the coins.

### ASIA MINOR

**Hittite Archives from Boghazkeul.** — In *Ann. Arch. Anthr.* IV, 1911, pp. 90-100, META E. WILLIAMS translates from the German of Winckler extracts from the Hittite archives found by him at Boghazkeul.

**Hittite Inscriptions.** — The first fruit of the Cornell Expedition to Asia Minor is the publication of the Hittite inscriptions copied by its members. These, twenty-seven in number, are reproduced by Dr. Charles in photographic facsimile and transcription. The careful use of squeezes and a study of the known signs has enabled him to transcribe many apparently hopeless passages. This is especially the case with the great inscription of Boghazkeul, hitherto generally regarded as illegible, of which Dr. Charles has recovered the greater part of the main portion, and much of three lines at the left. It is expected that further results of the expedition will be published during 1912. [*Travels and Studies in the Nearer East*. By A. T. OLMSTEAD, B. B. CHARLES, and J. E. WRENCH. Vol. I, Pt. 2. *Hittite Inscriptions*. Ithaca, 1911. 49 pp.; 27 pls.; 45 figs. 4to.]

**The Stele of Ördek-burnu.** — In the museum of Constantinople there is an inscription upon a stele brought from Ördek-burnu that hitherto has resisted all efforts at decipherment. In *Eph. Sem. Ep.* III, 1911, pp. 192-206 (3 pls.), M. LIDZBARSKI gives the results of a new and careful collation of the text. The characters belong to the earliest period of the Semitic alphabet, but the language is not Semitic, but is probably one of the dialects of Asia Minor. Whether it be Hittite, Mitannian, Carian, or some other language, it is impossible in our present state of knowledge to say.

**Corpus Inscriptionum Neo-Phrygiarum.** — All the known texts of Neo-Phrygian, about seventy in number, a score of which are new since Ramsay's publication in 1905, are published by W. M. CALDER in *J.H.S.* XXXI, 1911, pp. 161-215. Although no two are exactly alike, they are chiefly curses on violators of tombs, appended to epitaphs in Greek, and they can be interpreted by the formulas of similar import which occur in that region in Greek. This comparative method seems a better means of getting at the forms of the Phrygian language than the strictly philological method, which has been tried with slight success. These inscriptions all belong to the first three centuries of the Christian era, and show that the native tongue survived in common speech beside the Greek, for a long time, in isolated districts.

**Penalties in Lycian Epitaphs.** — In *J.H.S.* XXXI, 1911, pp. 269-275, W. ARKWRIGHT discusses the Lycian epitaphs of the third century B.C. and later, which propose a money payment for violation of the tomb. He finds that this is not a penalty imposed by law, but an estimate of the damages that could be collected in a lawsuit, and he traces the change from the Asiatic religious idea of the act of violation as a sin, to the Greek and Roman notion of a crime, and from the owner or his heirs, to a public corporation, as protectors of the grave and recipients of the fine.

**The Site of Caesarea in Bithynia.**—In *Klio*, XI, 1911, pp. 325–334, J. SÖLCH argues that the site of Caesarea in Bithynia lay at the east end of Lake Dascylites; and that the name is preserved in that of the Turkish village Tscherkirge.

**The Temple of Artemis at Ephesus.**—In *Rec. Past*, X, 1911, pp. 247–248 (pl.), A. E. HENDERSON publishes a restoration of the fourth century temple of Artemis at Ephesus.

**A Coin of Artaxisata.**—In *C. R. Acad. Insc.* 1911, pp. 363–374 (fig.), E. BABELON publishes a bronze coin recently acquired by the Cabinet des Médailles, Paris. Upon the obverse is a head of Tyche to the right; and on the reverse Victory flying to the left, with the legend ΑΡΤΑΞΙΣΑΤΩΝ ΜΗΤΡΟΠΟΛΕΩΣ, the dates ΙΒ and ΘΞ, and the letters ΗΡΑ in a monogram. He shows that it is a coin of Artaxisata, the capital of Armenia Major, the correct spelling of which was not previously known; and that it dates from 183 A.D. The town was rebuilt after its destruction in 163, and twenty years after this it was the capital as it had been under Trajan. A special era began for Armenia Major in 114 A.D.

## GREECE SCULPTURE

**The Archaic Gigantomachy at Corfu.**—In *R. Arch.* XVIII, 1911, pp. 1–19 (3 figs.), CHARLES PICARD and CH. AVEZOU describe in detail the figures of Zeus and a giant from the archaic pediment at Corfu (see *A.J.A.* XV, 1911, p. 415), the only figures discovered when the article was written. The date suggested is toward the last quarter of the sixth century B.C. The Zeus recalls the “Dorian” style of Argos and Sicyn; the giant has points of resemblance to the statues from the islands.

**Torso of a “Kouros” at Neuchâtel.**—In *R. Arch.* XVIII, 1911, pp. 39–44 (fig.), W. DEONNA publishes a torso (shoulders to waist) of an archaic nude male figure of Parian marble, brought from Cephalonia and presented to the Musée historique at Neuchâtel in 1836. The entire figure was about 0.45 m. high. Three long strands of hair fall over each shoulder in front. Such statuettes seem not to have been made in the Ionian Islands or in continental Greece. This was probably imported from one of the Cyclades or from Asia Minor. Seven additions to the list of “Kouroi” and several additions to the bibliography given in the author’s work *Les “Apollons archaïques,”* 1909, are appended.

**An Archaic Head from Athens.**—A much-damaged archaic male head found in Athens in 1879 is illustrated and briefly discussed by E. S. FORSTER in *J.H.S.* XXXI, 1911, pp. 260–262 (fig.). It is an Attic work of the last quarter of the sixth century, and valuable chiefly as marking another step in the series of Attic *καῖροι* or nude male figures.

**Hageladas.**—In *Jb. Arch. I.* XXVI, 1911, pp. 24–34, A. FRICKENHAUS opposes the commonly accepted arguments of Brunn that there was but one sculptor Hageladas of Argos. He shows that dates for work under this name ranging from 520 to 428 B.C. are well authenticated, and that there was a grandson of the early Hageladas, contemporary with Polyclitus, who would naturally have borne the same name. To this younger sculptor, not of the first rank, he assigns the Zeus Ithomatas of the Messenians, the boy



Zeus of Aegion and the Heracles Alexicacus of the Athenian deme Melite, all of which he finds copied in coins or statuettes.

**The Marsyas Group.**—In *Jb. Kl. Alt.* XXVII, 1911, pp. 551-560 (pl.; 7 figs.), P. J. MEIER calls attention to a new restoration of the Marsyas group recently set up in the museum at Brunswick. The right hand of the Athena is close to her body and grasps the spear which passes in front of her, instead of to the left as in the Stettin restoration. Her left hand points to the ground. The left arm of Marsyas was extended backwards.

**The Companion Piece to the Ludovisi Throne Relief.**—An exhaustive examination of the three-sided marble relief now in the Boston Museum of Fine Arts (see *A.J.A.* XIV, pp. 389 f., figs. 8-10), together with its better known mate in Rome, is published by F. STUPNICZKA in *Jb. Arch. I.* XXVI, 1911, pp. 50-192 (80 figs.), as the text for the photographic reproduction of the former in *Ant. Denk.* III, i, pls. 7 and 8. Under twenty-four divisions, with citation of countless monuments, reliefs, statues, vase-paintings and ornaments, he discusses the opinions and arguments advanced by other archaeologists and gives the grounds for his own conclusions. These are in brief as follows: The two pieces, which he refers to as B (Boston) and L (Ludovisi), originally decorated the ends of a long altar, the volutes, which are of course to be supplied for L, corresponding to the not unusual altar-horns. They were crowned by acroteria, probably anthemias in the middle and doves at the corners. The sculptures which are Attic-Ionic in character and most closely allied to vase-paintings belong to the transition period between archaic and full classic, in the first half of the fifth century B.C. The main relief of L, with the three female figures, is the rising of Aphrodite from the sea, assisted by two Horae, while the closely veiled figure feeding a censer on the right wing and the naked girl playing the flutes on the left represent the goddess in her two aspects as patroness of connubial and illicit or ritual love. The weighing scene on B illustrates the myth of a contest between Aphrodite and Persephone for possession of Adonis, in which the former goddess won the greater favor. The joyful figure on the left is, therefore, Aphrodite, characterized by a fish as of marine origin, while the sorrowing figure on the other side above the pomegranate is Persephone. The lyre-playing youth on the right wing, who would face the courtesan of L, is Adonis himself, and the old woman on the left, facing the incense-burner, is an old nurse clasping a myrrh tree, now effaced, which symbolized Myrrha, the mother of Adonis. The shrine of Aphrodite and Adonis at Amathus in Cyprus is suggested as the possible site of the altar.

**The Art of Phidias.**—In *Jh. Oest. Arch. I.* XIV, 1911, pp. 35-88 (2 pls.; 58 figs.), H. SCHRADER discusses several pieces of Greek sculpture which illustrate the art of Phidias. 1. The Athena Medici of the École des Beaux Arts, Paris, is a copy of an original by Phidias. 2. The Demeter relief from Eleusis is Phidian in spirit. He compares with it a Demeter in Berlin and a Cora in the Villa Albani. 3. He shows that the Parthenon metopes known only from Carrey's drawings were not placed on the building in the order in which he drew them. In the middle of the south side after No. X (Centaur seizing a woman) should come No. XVIII (two fleeing women and a small servant), then XXI (two women and statue), XIII (father and mother of the bride), XIV (priestess and servant), and XII (Centaur seizing a woman). Some of Carrey's drawings represent metopes



of the north side. In the middle No. XIX (Demeter and Cora) should be followed by XVII (Hermes and Apollo) and then XX (two Muses). No. XXXII, which is still preserved, belonged to the north side and represented the judgment of Paris. A head in Athens probably came from a metope on the south of the building.

4. He points out the close resemblance between the head of Hera from the Argive Heraeum and the Bologna head (Furtwängler's "Lemnia"), and argues that the latter is not to be attributed to Phidias, but that it is a work of the Argive school. He thinks the main features of the true "Lemnia" may be seen in a relief in Lansdowne House, where Athena is standing unarmed, holding a Corinthian helmet. 5. He identifies the standing statue of a nude youth in the Villa Albani as a copy of the one statue of an Olympic victor made by Phidias. 6. He confirms Treu's theory that the Zeus from Olympia in Dresden is Phidian and compares with it the Cora Albani. 7. He argues further that a fine bronze head in Vienna (Fig. 1) goes back to the Olympian Zeus of Phidias.



FIGURE 1.—BRONZE HEAD OF ZEUS.

**Aphrodite Urania of Phidias.**—In *R. Arch.* XVIII, 1911, pp. 268-281 (6 figs.) VITTORIO MACCHIORO discusses a half-draped statue of Aphrodite in Naples (*Guida del Museo*, 233) and its replicas, e.g. Clarac, 604, 1326; Reinach, *Répertoire*, II, 406, 5; IV, 202, 7). The right hand rests on a dolphin (in some variants, on a post or the like), the left hand on the hip. The drapery covers the left arm and the lower part of the person from the hips to the ankles. The hair is done up in a knot on the top of the head, and two locks fall over the shoulders in front. Comparison with other monuments leads to the conclusion that the type was invented by Phidias for his Aphrodite Urania. The dolphin is a Hellenistic innovation.

**The Artemis Colonna.**—The Artemis Colonna in the Berlin museum, named from its former possessor, is discussed by B. SCHROEDER in *Jb. Arch. I.* XXVI, 1911, pp. 34-48 (10 figs.), with especial reference to the disputed date of the original. Since the replica discovered at Miletus proves that the supposedly fourth-century head and fifth-century body really belong together, an examination of both shows that this is a fifth-century

work of the Ionian school, an early member of the group best known by the Nike of Paenionius. The sculptor, a man of originality and a student of nature rather than of established canons, anticipated many of the ideas which the great masters of the following century worked out to greater perfection but with less vitality. The nearest analogy to the head is found in Waldstein's Hera head from the Argive Heraeum.

**An "Apobates" Relief from the Amphiareum.**—In *Ἀρχ. Ἐφ.* (formerly *Ἐφ. Ἀρχ.*), 1910, pp. 251-266 (pl.; 2 figs.), N. G. PAPPADAKIS publishes a fragmentary relief from Oropus representing an athlete with helmet and shield about to dismount from a rushing chariot in the *Apobates* race (found in 1887, now in Athens, Nat. Mus. No. 1391; Svoronos, *Ἐθνικὸν Μουσεῖον*, pl. 56). It is evidently an ex-voto to Amphiaraus (*... εὐς ἔγγνῃν*) for victory in the *ἀγὼν ἀποβάτης* of the Amphiarean games. A transitional work, exhibiting the calmness and balance of the fifth century and the vigor of the fourth, strongly influenced by the similar groups of the Parthenon frieze, it forms an intermediate step between the similar relief in the Acropolis Museum (Collignon, *B.C.H.* 1888, pp. 458 ff., pl. 17), and another found at Oropus (Berlin Mus. No. 725; Furtwaengler, *Samml. Saburoff*, pl. 26).

**A Hermes of Cephisodotus.**—In *Jh. Oest. Arch. I.* XIV, 1911, pp. 89-97 (6 figs.), V. MACCHIORO publishes a headless Hermes found by the late G. Schaefer in the Roman baths of Agnano. The figure is athletic and stands with the weight on the right leg and with the left advanced. In the right hand is the caduceus, and on the left arm, which is covered by the chlamys fastened about the neck, is the infant Dionysus. Beside the left leg is a tree-trunk and a ram looking up. He argues that this is a copy of a Hermes by Cephisodotus.

**A Hermes by a Follower of Praxiteles.**—In *Jh. Oest. Arch. I.* XIV, 1911, pp. 98-111 (11 figs.), W. KLEIN discusses a Hermes holding the infant Dionysus from the Farnese Palace engraved by J. Bapt. Cavalleri in his *Antiquae statuæ urbis Romæ* (III, IV, pl. 45), and shows that it was the work of a follower of Praxiteles. Several more or less close replicas of it exist.

**A Bas-relief of Demosthenes.**—In *Hermathena*, XXXVI, 1910, pp. 1-12 (10 pls.), T. K. ABBOTT describes a relief representing Demosthenes which has been in the possession of Trinity College, Dublin, since the middle of the eighteenth century. It is 32.1 cm. high and 23.8 cm. wide and is said to have been found in Hadrian's villa. The orator is seated on an altar with his head bowed in thought. He holds a roll of manuscript in his left hand. It is evident that the sculptor desired to represent him during the last moments of his life. On the altar is the inscription *Δημοσθένης ἐπιβόμμος*. Michaelis, on the basis of what seemed to be errors in the drapery and the misspelling of the name, doubted its authenticity.

**Satyr and Eros.**—In *C. R. Acad. Insc.* 1911, pp. 352-355 (fig.), A. HÉRON DE VILLEFOSSE publishes a carnelian intaglio in his own collection upon which is represented a youthful satyr standing with right foot raised and supporting a little Eros whose two hands he holds (Fig. 2). Below is the name PHILO. The same scene



FIGURE 2.—SATYR AND EROS. INTAGLIO.

appears on a gem in Vienna, and the coins of Pergamon and Nysa have a somewhat similar design. The group seems to have been popular in the time of the Roman empire and to have been of Asiatic or Alexandrian origin.

**The Marbles from Mahdia.**—In *R. Arch.* XVIII, 1911, pp. 92-126 (11 figs.), A. MERLIN and L. POINSSOT describe and discuss seventeen works in marble which were discovered in the sea near Mahdia, Tunisia (see *A.J.A.* XIII, 1909, pp. 102-103; 374; XIV, p. 248; 388 f.; XV, pp. 112 f.; 551 f.). They have suffered more than the bronzes from the action of the water. The marble all seems to be Attic, probably from Hymettus. The different works, statues, etc., were originally made of several pieces joined together. The most complete piece is the head of Aphrodite (*A.J.A.* XIV, p. 388, Fig. 7), a late Attic type, influenced by Praxiteles. Heads of Niobe and two Niobids are not exact replicas of any others known, but proved the popularity of the composition best known through the statues in Florence. Two further heads are those of a male and a female satyr. Two torsos of youths, and several fragments (part of a bust of Heracles, two human legs, three forearms, besides a few small pieces) complete the list of statues. Two statuettes of Artemis in a short tunic (one of which is almost complete though wanting the head and both arms) and five statuettes of children (only one of which is at all complete, and the head of that is ruined by corrosion) are described. A large head of a bearded Pan (0.40 m. high) in high relief was intended to be fastened to a flat background. Of the two bas-reliefs found, one represents the sacred banquet offered to Asclepius, the other, much mutilated, represents a seated goddess, perhaps Cybele. This may have been taken from the Metroum at the Piraeus, and the sacred banquet from the Asclepieum when Sulla's army pillaged the place in 86 B.C.

**Bronze Statuettes from Mahdia.**—In *M. Soc. Ant. Fr.* LXX, 1910, pp. 211-230 (4 figs.), A. MERLIN and L. POINSSOT describe four bronze statuettes found in the sea near Mahdia. (1) One represents a comic actor with legs crossed seated on top of a column, perhaps originally part of a lamp stand. It had an artificial patina. The three other figures, a satyr, a dancing Eros, and a standing actor, were never completely finished and show marks of the casting. (2) The satyr has lost both arms and one leg from above the knee. It is 19 cm. high and was inspired by a fourth century original. (3) The Eros is represented as a winged child, 13 cm. high, stepping forward with hands raised, in the dance. (4) The actor has a bearded mask and is gesticulating with both hands. All of these figures show affinities with neo-Attic sculpture.

**Hestia on the Omphalos.**—Two incomplete inscriptions from Delos, the accounts of Anthesterius and of Callistratus, mention two statues of Hestia in the prytaneum. One, of bronze, was seated on a small stone altar (*ἐπὶ βωμίσκον λιθίνον καθήμενη*); the other was about two feet high and was seated on an omphalos (*ὡς διποῦν ἐπ' ὀμφάλου καθήμενη*). The omphalos was then an attribute of Hestia. Several figures hitherto called by other names may now be called Hestia. (P. ROUSSEL, *R. Arch.* XVIII, 1911, pp. 86-91.)

**The Imagery of Alexander.**—In *R. Arch.* XVIII, 1911, pp. 290-296 (fig.), G. BLUM discusses a small bronze bust from Lower Egypt, now in

the Fouquet collection in Cairo. It represents Alexander with the uraeus, a crown of rays, and an imbricated breastplate. It belongs to the imagery, rather than to the portraiture, of Alexander and represents less the man than the heroized or deified founder of the city, as he was worshipped at Alexandria. Other examples of the same class of representation are cited. Such works make the iconography of Alexander difficult and, in some degree, uncertain. Some errors of writers on the subject are pointed out.

**Polybius and Damophon.** — In *Sitzb. Sächs. Ges.* LXIII, 1911, i, pp. 3-15 (2 pls.), FRANZ STUDNICZKA discusses the relief from Cleitor in Arcadia (*Ath. Mitt.* VI, 1881, pl. 5; Baumeister, *Denkmäler*, III, p. 2027; cf. Bernoulli, *Griech. Ikonogr.* II, pp. 184 ff.; Hitzig-Blümner, Pausanias, III, i, p. 138), which he claims, by citation of ancient authors and comparison with the sculptors from Lycosura, to be a portrait of Polybius by Damophon.

**The Monument of the Aetolians at Delphi.** — In *J. Int. Arch. Num.* XIII, 1911, pp. 177-240 (pl.; 5 figs.), A. J.-REINACH identifies two blocks carved with shields in the museum at Delphi as part of the monument of the Aetolians erected at Delphi to commemorate their victory over the Gauls. The monument is reproduced on Aetolian coins. It consisted of a bronze figure of Aetolia, with a flat hat on her head, seated upon a support to which Gallic shields and other spoils were attached. With her right hand she grasped a spear which rested on the ground and with her left held a sheathed sword. The monument was placed upon a two-stepped hexagonal base, part of which has recently been identified.

**The Sandal in the Palazzo dei Conservatori.** — In *J.H.S.* XXXI, 1911, pp. 308-314 (3 figs.), G. DICKENS makes a plea for assigning to Damophon the fragment of a sandal and foot which is preserved in the Palazzo dei Conservatori. It is generally admitted to be of Greek marble and Greek workmanship and Hellenistic date, probably of the third or second century B.C. It comes from a colossal acrolithic statue, such as Damophon was likely to make, and the frieze around the high "Tyrrhenian" sandal, a marine procession, corresponds closely in design and execution to one of the bands of relief on the Lycosura drapery.

#### VASES AND PAINTING

**The Aristonous Vase.** — In *Mél. Arch. Hist.* XXXI, 1911, pp. 33-74, P. DUCATI discusses in detail the crater of Aristonous, now in the Palazzo dei Conservatori, Rome, reviews and criticises the theories of other scholars, and comes himself to the conclusion that the vase is a product of Attic derivation but manufactured in Italy, probably at Cumae, in the second half of the seventh century B.C.

**The Master of the Berlin Amphora.** — The unnamed, but important Attic vase-painter of the severe period whose best-known work is the Berlin amphora No. 2160, has such a well-marked style that J. D. BEAZLEY has been able to assign to him thirty-seven other vases of various shapes, and to his school or direct imitators twenty-nine more. They include amphoras of various kinds, stamni, craters, among them the four earliest bell-craters known, hydriae and lecythi. All these vases are minutely analyzed in shape, ornament, and picture-decoration, in *J.H.S.* XXXI, 1911, pp. 276-295

(10 pls.; 9 figs.). The figures, whether divine, human, or animal, are peculiarly graceful and charming, suggesting the poet's *νεόγυιος ἦβα*.

**Greek Vases in Ferrara.** — In *Boll. Arte*, V, 1911, pp. 341-346 (4 figs.), A. NEGRIOLI publishes three Greek vases in the Museo di Schifanoia, Ferrara. They are: 1. A red-figured cylix, black on the under side; on the inside is a bearded male figure with horn in one hand and pitcher in the other running to the left. He has the himation over his shoulders (Fig. 3). In the field to the inscription ΕΓΙΚΤΕΤΟΣ ΕΑΡΑΦΣΕΝ. 2. A similar cylix, black on the outside, has in the centre a standing nude



FIGURE 3. — VASE SIGNED BY EPICETUS.

youth pouring oil from a flask into his outstretched left hand. His clothes are piled upon a stool. In the field are the words MEMON KALOS.

3. A third cylix, in the style of Brygos, is adorned with Bacchic scenes. On the under side are two groups of three Maenads and a Satyr. One of the Maenads on one side is mounted on a mule.

**Two Vase Paintings.** — In *Rend. Acc. Lincei*, XX, 1911, pp. 142-154, P. DUCATI discusses two vase paintings; one on a cup from Naucratis shows a female figure, surrounded by small winged beings. Studniczka and others, because of their conviction that this and similar vases are Cyrenaic, call her the nymph Cyrene, attended by Boreads and Harpies (cf. Philodemus, *Περὶ εὐσεβείας*, p. 43). Ducati, noting that the British discoveries at Sparta have shown such vases to be of Spartan origin, suggests that the vase represents Persephone, holding a pomegranate, as emblematic of the sacred tree which the *εἰδωλα* of the dead are worshipping in the hope of a return to earth. There may be, he thinks, a suggestion of palingenesis or

of metempsychosis in this painting from Naucratis, where Pythagoras, the expounder of this doctrine, lived, in the century in which this vase was made. With regard to the second vase Ducati maintains that the winged warrior flying from a ship, represented on an Attic amphora of the British Museum (Gerhard, *Auserlesene Vasenbilder*, pl. 198), is not an εἰδωλον or φάντασμα of Achilles, as in the *Hecuba* of Euripides (110-112), but rather the hero himself transported to the Islands of the Blessed, as told in the *Aethiopis*. He calls attention to the resemblance between the winged figure and one of the two warriors in combat on the other side of the vase, which, he thinks, pictures a duel between Memnon and Achilles.

**An Attic Crater of Felsina.**—In *Rend. Acc. Lincei*, XX, 1911, pp. 248-266 (pl.), P. DUCATI presents some observations on an Attic crater, distinguished by having white color freely used on the figures, published by Pellegrini in his *Catalogo dei vasi greci dipinti delle necropoli felsinee*, p. 147 sq. No. 304, Fig. 84. The vase represents Dionysus and Ariadne guided by Erotes and attended by Maenads and Satyrs, but is not, as Von Salis thinks, their wedding procession on the occasion of Theseus' abandonment (he compares Pausanias' description (I, 20, 3) of the paintings in the temple of Dionysus Eleutherius at Athens), but rather a reunion, representing a cult-scene of the Χόες at the Anthesteria, with Ariadne, as a kind of Aphrodite, typifying the wife of the Archon Basileus in her marriage to the god Dionysus. Ducati places the vase in the first half of the fourth century B.C., or even in its first decades, and makes the chronology of the decadent Attic art depend on this. Thus the Palermo Phaon-crater precedes this one and is in turn preceded by the Midias crater of London, giving us as the epoch of the Midias cycle the years 420-400 B.C., and not as Nicole and Hauser think, 400-350 B.C. The Peloponnesian War did not, he thinks, interfere with the production of pottery.

**A Panathenaic Amphora from Camirus.**—In *B.S.A. XVI* (session 1909-1910), pp. 206-211 (pl.; fig.), A. M. WOODWARD publishes fragments of an early Panathenaic amphora on which the Armed Race was represented. Of one side only parts of Athena's shield and drapery and of the column are preserved; of the other side, nearly all of one running hoplite and small portions of two others. Probably there were no more on this vase. This is a small-sized vase; perhaps the small vases were second prizes. Two small fragments of fourth-century Panathenaic vases recently obtained at Athens are reproduced. Each bears the end of the customary inscription (ΑΘΑΩΝ and ΕΝΑΘΑΩΝ).

**The Contest of Poseidon and Athena.**—In *C. R. Acad. Insc.* 1911, pp. 341-348 (2 figs.), M. COLLIGNON publishes an Apulian crater in Madrid on which is painted the contest of Poseidon and Athena for the supremacy of Athens (Fig. 4). He proves that it belongs to the series of monuments shown by Stephani and Robert to reproduce the group seen by Pausanias on the Acropolis at Athens. The painter has introduced a winged horse, Nike, Cecrops, and Dionysus which formed no part of the original monument. This vase painting is the earliest reproduction of the group.

**Greek Vases in Athens.**—The rapid increase in the number of vases in the National Museum at Athens since the publication in 1902 of the *Catalogue* of Collignon and Couve has made necessary a supplement. This is now supplied by G. NICOLE in a substantial volume of 351 pages, and a

volume of plates. The descriptions of the different vases are ample, and the plates excellent. [*Catalogue des vases peints du Musée National d'Athènes. Supplément. Par GEORGES NICOLE. Avec une préface de Maxime Collignon. Paris, 1911, H. Champion. Text: x, 351 pp.; 10 pls. Plates: 21 pls. 70 fr.*]

**Greek Vases in Marseilles.**—In *C. R. Acad. Insc.* 1911, pp. 380-386 (3 figs.), G. VASSEUR shows that the three vases with geometric designs



FIGURE 4.—APULIAN CRATER. CONTEST OF ATHENA AND POSEIDON.

supposed to have been found at the Bassin de Carénage, Marseilles, came from other places. The tombs on this site are not earlier than the third century B.C.

**A Note on the Jatta Vase.**—In *R. Ét. Anc.* XIII, 1911, pp. 416-420, W. DEONNA argues that the scene on the Jatta vase (*Mon. Ant.* IX, 1899, pp. 193 ff.) does not represent a Laocoön scene, but rather a woman fleeing for refuge to a statue of Apollo. The serpents had come to her assistance. He thinks that the painter had in mind a statue of Apollo encircled with serpents, and compares the statuette found on the Janiculum by Gauckler and Darier.

**Greek Painting.**—In *Jb. Kl. Alt.* XXVII, 1911, pp. 161-185, (3 pls.), E. PFUHL publishes a study of Greek painting.

**A Hero and Leander by Apelles.**—The conjecture of J. SIX that the



group of Hero and Leander on coins of Abydus came from a painting by Apelles (*Jb. Arch. I. XXV*, p. 149) has found confirmation in a passage from Theopompus which Domitius quotes, probably from Varro, in his commentary on Statius, *Silvae*, I, 2, 87 ff. This distinctly states that Apelles painted the two lovers. In the *Thebae*, VI, 54, Statius actually describes such a picture. (*Jb. Arch. I. XXVI*, 1911, pp. 22-23.)

**Mosaics by Dioscurides of Samos.**—A somewhat detailed technical and aesthetic study, by Miss M. BIEBER and G. RODENWALDT, of the two remarkable Pompeian mosaics in the Naples museum which are signed by Dioscurides of Samos, is published in *Jb. Arch. I. XXVI*, 1911, pp. 1-22 (8 figs.). The mosaics date probably from the end of the second century B.C. and are copied from late fourth-century votive paintings. The fidelity with which they reproduce the expression, lighting and modelling, the harmony of colors, though perhaps in a slightly lowered key, and almost the technique of the original painting, *a tempera*, make them of great value in the study of Greek paintings and through the originals thus brought before us they illustrate clearly some points of daily life and theatrical usage in early Hellenistic times. The cement bed in which the tesserae are laid is varied in color to match the stones it receives, and the stones themselves, averaging in general 2.50 mm. in length, are reduced in places to 1 mm. by  $\frac{1}{2}$  mm., to represent the very brushmarks of the painting. The ground, in horizontal courses, was laid after the figures, as is shown by the double line of tesserae of a slightly darker shade which follows the outline of the figures. Costumes and masks show that the scenes are both taken from the New Comedy. One is a group of street musicians who might well be the begging priest of Cybele from the *Metragyrtes* of Antiphanes or of Menander. The other, an old woman who deals in magic, with two of her young clients, is most nearly paralleled in Theocritus and Herodas. In the theatre, both scenes were evidently set on the upper stage, above the proscenium, and the second is a rare example of an indoor scene set just inside the open door of the *σκηνή* itself. It shows the device of a second platform raised on three steps to bring the figures into the view of the front row of spectators and the additional plain wall behind the opening, which have been inferred as necessary adjuncts of such scenes. The importance of these mosaics makes it very desirable that faithful colored reproductions should be published.

#### INSCRIPTIONS

**The Disk of Phaestus.**—*R. Ét. Anc.* XIII, 1911, pp. 296-312 (2 figs.), A. CUNY thinks that the signs on each side of the disk found at Phaestus may be divided into seven sections of thirty groups each. He believes that the mark at the end of certain characters denotes punctuation. He argues that the writing is cryptographic in character, and that the disk was perhaps an amulet. In *Nature*, May 18, 1911, JOHN GRIFFITH reads it as a calendar.

**Inscriptions from Rantidi in Cyprus.**—In *Sitzb. Berl. Akad.* 1911, No. xxviii, pp. 630-650 (pl.), is an article by RICHARD MEISTER in which the text of 139 inscriptions from Rantidi in Cyprus is given, so far as any text is decipherable, with brief comment. Nos. 1-10 were known before Dr. Zahn's excavations. The others are new. Many are dedications to Apollo

or Aphrodite, others are dedications lacking the name of any deity, others consist of proper names. Nearly all are fragmentary, and many are so fragmentary that only isolated signs can be deciphered, while some offer no clear signs at all. One is, perhaps, Phoenician, the others Cypriote Greek.

**Cypriote Inscriptions.** — In *Sitzb. Sächs. Ges. LXIII*, 1911, ii, pp. 17-38 (2 pls.), RICHARD MEISTER ('Beiträge zur griechischen Epigraphik und Dialektologie, X') discusses the inscription of Gilozama (Cesnola, *Cyprus*, p. 159, German edition, pl. 33, No. 3, Descriptive Atlas, I, pl. 85, No. 560; Hall, *J.A.O.S.* XI, 1885, 232, No. 1), the old Phrygian inscription of Arezastis (Ramsay, *Journal of the Royal Asiatic Society*, XV, 1883, pp. 100 ff., pl. 2, Nos. 7 and 8), and the Cypriote inscriptions on six seals and gems, giving readings, Greek transliterations, translations, and notes.

**Cleobis and Biton.** — The conjectural identification of the two oldest statues found at Delphi as the brothers Cleobis and Biton of Argos, who drew their mother's carriage to the Heraeum, is rendered certain by the discovery of one half of the second plinth with an important part of the inscription (see *A.J.A.* XV, p. 227). This can now be clearly read, on the upper side of the two bases and running in opposite directions on the two stones, as if to be read by a person standing between them:

[ΚΛΕΟΒΙΞ ΚΑΙ ΒΙ]ΤΟΝ: ΤΑΝ ΜΑΤΑΡΑ:  
ΕΑΓΑΓΟΝ: ΤΟΙ ΔΥΟΙ:  
ΤΠ[ΛΥ]ΜΕΔΕΞ ΕΠΟΙΕΕ ΗΑΓΓΕΙΟΞ

This is one more proof of the accuracy of Herodotus. Plutarch and Pausanias do not mention the pair, perhaps because the statues were buried at the time of the destruction of the temple in 380 B.C. They appear to date from the middle of the sixth century and may have stood originally, with the offerings of Croesus, in the pronaos of the pre-Alcmaeonid temple. (*Arch. Anz.* 1911, cols. 46-50; fig.) At the May (1910) meeting of the Archaeological Society at Berlin, H. Pomtow read a paper on the statues, confirming A. V. Premerstein's reading of the inscription, though substituting τοῖ δ' υἱοὶ for τοῖ δυοῖ (= τῶ ζυγῶ). (*Berl. Phil. W.* XXXI, 1911, cols. 787 ff.) In *Philologus*, LXX, 1911, pp. 312-313, J. BAUNACK argues that εάγαγον is an impossible form, and that the E belongs to a missing word. He would restore [Κλέοβις καὶ Βί]τον τὰν ματάρᾳ [Ἡεράκλῳδ] | εάγαγον τοῖ δυοῖ.

**Inscriptions from Praesus.** — In *B.S.A.* XVI (session 1909-10), pp. 281-289, R. C. BOSANQUET publishes sixteen inscriptions, thirteen of which are from Praesus and the rest from the neighborhood. They were found in the excavations of 1901 and 1904. Nearly all are very fragmentary, and their chief interest consists in the indication they furnish that the sanctuary on the Altar-hill — Dr. Halbherr's "Third Acropolis" — was the place where official documents, etc., were exhibited. One fragment partially supplements the decree in honor of two Athenians — Leon, son of Pausanias, and Thrason, son of Thrasonides (not son of Thrason), — published by Halbherr in *Museo Italiano*, III, p. 599.

**Attic Building Records.** — In *B.S.A.* XVI (session 1909-10), pp. 187-205, A. M. WOODWARD publishes three new fragments of Attic building

records found by him in the Epigraphical Museum at Athens—two from the record of the Parthenon, one from that of the Propylaea. The first reads, as restored: [τοῖς ἐπιστάταις λογῆς Ἀντ(ορ υ)] [ . . . . . ] ἐγραμμάτευεν | [ἐπὶ τῆς ἡενδεκάτης] βολῆς ἡὲ [Πε]ρθιάδης πρῶτος ἔργα | [μμάτευεν, ἐπὶ Εὐθυμέν]ος ἀρχον[τ]ος Ἀθηναίων. | [λίμματα τὸ ἐναντὶ τοῦτο τὰδε, when combined with the fragment recently added by Cavaignac, *Études sur l'histoire financière d'Athènes au V<sup>e</sup> siècle: le Trésor d'Athènes de 480 à 404* [Paris, 1908], Introd. pp. 1 ff, and pl. II. Cavaignac's arrangement of fragments and some of his results are criticised. The second fragment must be assigned to the reverse face of the stele, either to year X or year XIII. It contains a reference to work on the pediment sculptures. The bearing of this upon the dates of the works of Phidias is discussed. The fragment of the record of the Propylaea is identified in part by establishing the fact that the stele decreased in thickness from the bottom upwards, and a reconstruction of the whole stele is outlined. The new fragment contains portions of ten lines relating to years IV and V.

**Inscriptions from the Agora in Athens.**—In Ἀρχ. Ἐφ. (formerly Ἐφ. Ἀρχ.), 1910, pp. 401-407, G. P. ΟΙΚΟΝΟΜΟΣ continues his article (*ibid.* 1910, pp. 1-28) by the publication of a fourth inscription from the Athenian agora, a preliminary decree of the Boule, passed in 302-301 B.C., bestowing a crown and προεδρία upon the taxiarchs of 305-304 collectively, who had already been crowned individually. This honor was evidently for services in resisting the invasion of Cassander, who was finally repulsed by the help of Demetrius. The decree was passed the day before, *I.G.* II, 269, and makes it possible to restore correctly the date of the latter.

**Inscriptions from Lycosura.**—In Ἀρχ. Ἐφ. (formerly Ἐφ. Ἀρχ.), 1910, pp. 393-394, F. HILLER suggests [ἀ] π[ό]λις Κ[αφνα]τ[ἀ]ν instead of . . . . Κ[ληροπ][ω]ν as the city that erected the statue of Lydiadas of Megalopolis at Lycosura, the inscribed pedestal of which was published by Leonardos, *ibid.* 1896, p. 263, No. 1. He regards the inscription as surely of the third century, probably 228-226 B.C., and accordingly the Lydiadas honored was he who died fighting Cleomenes in 226. In pp. 395-396 he restores three fragments of an inscribed pedestal as a third dedication of Xenophilus, son of Damophon of Messene (for the two others cf. Dickens, *B.S.A.* XII, 1905-06, pp. 132-133).

**Thessalian Inscriptions.**—In Ἀρχ. Ἐφ. (formerly Ἐφ. Ἀρχ.), 1910, pp. 331-332 (9 figs.) (correction noted p. 408), A. S. ARVANITOPOULLOS begins the publication of numerous Thessalian inscriptions found too late to be included in *I.G.* IX.<sup>2</sup> This first installment contains twenty-five inscriptions from Larisa in Pelasgiotis. Three honorary decrees throw important light upon the Thessalian League founded by Flamininus in 197 B.C.; one gives a list of winners in a bull-fight; one is a testament (?) dedicating to Augustus an estate of a freedman, who was supervisor of the imperial revenues from inheritances. Besides these are two lists of manumitted slaves, eleven burial inscriptions, two statue bases, and three ex-votos, one of them dedicated to the Cabiri by the distinguished general Eunomus (cf. Livy, 35, 39).

**Inscriptions in Chios.**—In *Jh. Oest. Arch.* I. XIV, 1911, Beiblatt, cols. 49-56 (4 figs.), J. KEIL, as the result of a new examination of the stones, is able to correct the reading in a number of places in the inscriptions from

Erythrae now in Chios. He also publishes two inscriptions from Clazomenae.

**Inscriptions from Seleucia.** — In *Mél. Fac. Or.* V, 1911, pp. 329–332, L. JALABERT discusses three Greek inscriptions from Seleucia published by Abel in *R. Bibl.* 1911, pp. 117 f.

**The Grave Inscription of Bishop Eugenius.** — In *Klio*, XI, 1911, pp. 388–390, A. WILHELM proposes certain corrections in the restoration of the last three lines of the grave inscription of Bishop Eugenius, copied by W. M. Calder in Ladik in 1908. Among others he reads in l. 19 τῆς τε ἐκλ[ησίας κὲ] τοῦ γένους μου, instead of τῆς τε ἐκλ[ησίας ἀπ']ὸ κ.τ.λ.

**Epigraphical Notes.** — In *Ἀρχ. Ἐφ.* (formerly *Ἐφ. Ἀρχ.*), 1910, pp. 399–400, S. VASES publishes short notes criticising in certain details *Ἐφ. Ἀρχ.* 1909, p. 276, and 1910, p. 73.

**Epigraphic Bulletin.** — In *R. Ét. Gr.* XXIV, 1911, pp. 291–333, A. J. REINACH publishes a bulletin of Greek epigraphic literature for the year.

### COINS

**The Coinage of the Ionian Revolt.** — In *J.H.S.* XXXI, 1911, pp. 151–160 (pl.), P. GARDNER points out the very strong probability that a certain set of electrum coins of Ionia dated about 500 B.C., of uniform weight and alloy, and with the same reverse stamp but different obverse types and no letters, were struck by the various cities which formed a sort of league, τὸ κοινὸν τῶν Ἰωνίων (Herod. V, 109), at the beginning of the Ionian revolt. It is probable also that the movement originated with Chios and that the coins, which are of about the value of a Daric, represent the monthly pay of the soldiers and sailors (Xen. *Anab.* I, 3, 21). A similar league-coinage was issued by the cities of Magna Graecia about 550 B.C. and by other groups of states in later times.

**Coins of Scyros.** — In *J. Int. Arch. Num.* XIII, 1911, pp. 127–130 (pl.), I. N. SVORONOS publishes five early coins of Scyros, as well as four others issued by Athenian clerouchs, one for Scyros, two for Imbros, and one for Lemnos.

**The Coin Collection of Helene Mavrokordatou.** — In *J. Int. Arch. Num.* XIII, 1911, pp. 241–300 (8 pls.), I. N. SVORONOS describes 1037 Greek coins in the collection made by Helene N. Mavrokordatou, now in the possession of G. N. Baltatzes. The collection is remarkable for the fine condition of most of the coins. One specimen is identified as a coin of Olophyxus, a town on the Strymonian Gulf not previously represented in Greek numismatics. The remaining coins will be described in a second article.

**Unpublished Greek Coins.** — Some unpublished Greek coins of Chios, Erythrae, Athens, Aegina (?), Locri Opuntii, and Syracuse from the collection of J. MAVROGORDATO are described and discussed by him in *Num. Chron.* 1911, pp. 85–100 (pl.), “although no one of them can claim to be of first-rate importance.” In *Num. Z.* 1910, pp. 7–32 (3 pls.), J. SCHOLZ publishes 175 apparently previously unpublished Greek coins from his own collection, most of them of the time of the Roman empire.

**A New Syracusan Tetradrachm.** — A tetradrachm of Syracuse, of the usual types, but accompanied by the artist-signature YONEMYE is published by PH. LEDERER in *Num. Z.* 1910, pp. 1–6 (fig.).

**Hoard of Coins from Delos.**—I. N. Svoronos has already published some account of a large find (3797 pieces) of coins of the Constantinian period on the island of Delos. W. KUBITSCHKE now makes some contributions to the dating and scientific appraisal of the find. (*Num. Z.* 1911, pp. 50-53.)

**Janiscus and the Boy Asclepius.**—In *J. Int. Arch. Num.* XIII, 1911, pp. 113-130 (2 pls.), I. N. Svoronos reprints his article on Janiscus and the boy Asclepius in 'Εφ. 'Αρχ. 1910 (*A.J.A.* XV, p. 232) and publishes in addition thirty-four coins to prove his point.

**Coinage of Alexander the Great.**—E. T. NEWELL publishes in *A. J. Num.* XLV, 1911, pp. 37-45, 113-125 (8 pls.), the second and third of his articles (which are to be continued) on the reattribution of certain tetradrachms of Alexander the Great.

**Errors of the Alexandrian Mint.**—A few errors and exchanges of legend on coins of the late second and of the third centuries made at the mint of Alexandria are described by L. LAFFRANCHI in *Boll. Num.* IX, 1911, pp. 113-116.

**Coins of the Seleucidae.**—In *J. Int. Arch. Num.* XIII, 1911, pp. 131-176 (pl.), W. v. VOIGT describes 789 coins of the Seleucidae, 18 of Armenia, and 18 of the kings of Commagene now in the Hermitage at St. Petersburg.

#### GENERAL AND MISCELLANEOUS

**Cretan Influence in Early Greek Art.**—In *Jh. Oest. Arch.* I. XIV, 1911, pp. 1-34 (36 figs.) E. LOEWY discusses various representations of animals such as the lion, horse, boar, and cattle in early Greek art and shows the influence upon them of Cretan art. This may also be seen in such a group as Europa on the bull from Selinus; or again in the painted antefixes found at Thermus and at various archaic temple sites in Italy.

**Mochlos.**—In 1908 Mr. Richard B. Seager carried on excavations on the little island of Mochlos on the east coast of Crete for the American School of Classical Studies at Athens, and the Boston Museum of Fine Arts. A report of the work was published in *A.J.A.* XIII, 1909, pp. 273 ff. The final report is now presented in a substantial volume of 111 pages. The finds belong to all periods from Early Minoan I to Late Minoan I, but most of them date from Early Minoan II and III. In addition to the clay vases, one hundred and thirty stone vases and a considerable amount of jewelry were found. The contents of the different tombs are discussed in detail. The colored plates, eleven in number, are especially good. [*Explorations in the Island of Mochlos.* By RICHARD B. SEAGER. Boston and New York, 1912, American School of Classical Studies at Athens, 111 pp.; 11 pls.; 54 figs. 4to. \$6.]

**A Heraeum at Tiryns.**—A. Frickenhaus at the May (1910) meeting of the Berlin Archaeological Society explained that a study of the site and remains of the Heraeum at Argos had led to the conclusion that this place was once an independent town named Prosymna, and that Hera was the household goddess of the reigning family. When Mycenaean and Argives conquered the place, about 700 B.C., and deposed the king, they adopted his patroness and built her a temple on the site of the palace. In a similar way a Hera who was worshipped by the royal house of Tiryns from the second

millennium down to the overthrow of the family about 650, was taken over by the community as a public patroness and a temple built where the palace had been, with the altar in its old place. The series of votive offerings of bronze, terra-cotta, etc., begins in each case with the change from a family to a community goddess. The terra-cottas at Tiryns represent either Hera Antheia, decked with flowers, or an ancient wooden image. This course of events is typical of what happened in many cities, Athens among the number. (*Arch. Anz.* 1911, cols. 51-54.)

**The Sanctuary of the Hero Physician.**—In 'Αρχ. Έφ. (formerly Έφ. 'Αρχ.), 1910, pp. 267-270 (fig.), PHR. BERSAKES describes foundation walls, dating between about 400 and 350 B.C., recently uncovered at 48 Praxiteles Street, Athens. These he thinks belong to the sanctuary of the Hero Physician, from which inscribed bases (*I.G.* II, 403, 404) were found in 1874 at a distance of some 220 m. (cf. *Demos.* XIX, 249 [419, 22]).

**Archaic Gold Ornaments.**—Three notes supplementing his recently published *Catalogue of the Jewelry in the British Museum*, are given by F. H. MARSHALL in *J.H.S.* XXXI, 1911, pp. 263-265 (3 figs.). They concern

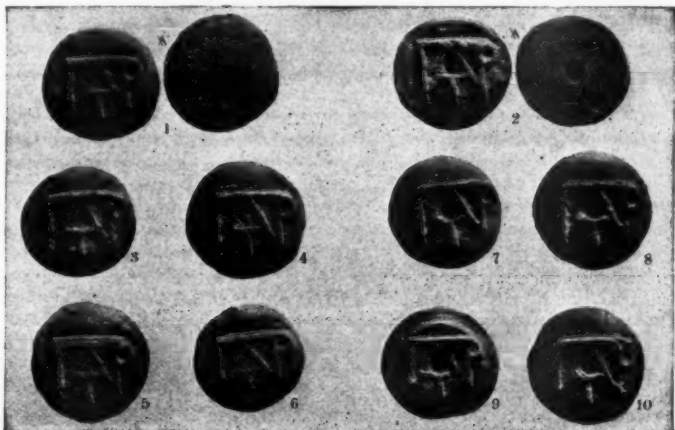


FIGURE 5.—EPIROTE VOTING DISKS.

some minute gold sphinxes with women's and rams' heads on an Etrusco-Ionian fibula of the seventh century B.C., found in the Roman Campagna; a gold plaque of unknown origin showing a siren or sphinx in front-view carrying off two unresisting youths, Ionian or Etrusco-Ionian work of the end of the sixth century; and three minute winged heads doubtless meant for sirens' heads, on the inside of an early Etruscan bracelet.

**Epirote Voting Disks.**—In *J. Int. Arch. Num.* XIII, 1911, pp. 121-126 (pl.; 5 figs.), I. N. SVORONOS publishes a bronze disk from Epirus on one side of which in monogram are the letters ΑΠΑΝ; the other side is smooth



(Fig. 5). Nine other specimens are in the Karapanos collection from Dodona, now in the National Museum at Athens. Some of them have holes in the middle. The writer shows that they are Epirote voting disks and that the monogram stands for ΑΠΕΙΡΩΤΑΝ. Incidentally the interpretation of this monogram explains a similar monogram on a series of bronze coins not hitherto understood.

**The Meniscus.** — In *Jb. Arch. I.* XXVI, 1911, pp. 48-49, E. PETERSEN has a few remarks on the meniscus or three-cornered crescent found in the Menelaum at Sparta and published in *B.S.A.* XV, p. 149. As a device for protecting the head of a statue from birds, it is a form derived from the simple spike, which was also extensively used, and indeed appears here as the axis on which the movable crescent turns, thickened above and below to keep the latter from slipping up or down.

**Representations of the Omphalos.** — In *J. Int. Arch. Num.* XIII, 1911, pp. 301-316 (13 figs.), I. N. SVORONOS discusses an unpublished decree in Athens relating to an ἐξηγητής (mentioned by Wilhelm, *Jh. Oest. Arch. I.* 1898, Beiblatt, col. 43). Above the text between two standing figures are two eagles on either side of an omphalos. The writer attempts a restoration of the inscription; and shows that representations of the omphalos were common in temples of Pythian Apollo. The eagles represent the golden eagles which were destroyed by the Phocians.

**A Contemporary Defence of Lord Elgin.** — In *Athen.* October 7, 1911, pp. 433-434 a contemporary defence of Lord Elgin for his removal of the Parthenon marbles which has hitherto escaped notice is reprinted. It appeared in *The Belle Assemblée* for August, 1810, and recounts how the Turks were destroying the sculptures for lime at the time Lord Elgin removed them from Athens.

**Notes on Thessalian Antiquities.** — In 'Αρχ. Έφ. (formerly Έφ. 'Αρχ.), 1910, pp. 407-408, A. S. ARVANITOPOULLOS notes a few additions and corrections to his article, *ibid.*, pp. 87, 89-90, 94, and to an article by Hiller in *Hermes*, XLVI, 1911, p. 154. He also criticises Hiller for publishing (*Berl. Phil. W.* 1911, p. 62) without due acknowledgment material supplied by himself.

**Nauarch and Nesiarch.** — From Delian and other inscriptions, W. W. TARN has got together the scanty available facts about the six or seven men who held the offices of Nauarch and Nesiarch in the Aegean under Ptolemy Philadelphus, and concludes that the Nauarch was virtually viceroy of the islands, in many instances exercising the authority of the king, while the Nesiarch was only a sort of Egyptian Resident, acting as a channel of communication between the islanders and the king, but wholly lacking in authority. (*J.H.S.* XXXI, 1911, pp. 251-259.)

**Psyttaieia.** — In 'Αρχ. Έφ. (formerly Έφ. 'Αρχ.), 1910, pp. 383-393, K. J. BELOCH, reiterating his view set forth in *Klio*, VIII, 1908, pp. 477 ff., that Psyttaieia is to be identified with the island of St. George, well within the straits of Salamis, instead of Lipsokoutala, which is outside in the direction of Piraeus, answers, point by point, the criticism of this view by P. D. RHEDIADIS in Έφ. 'Αρχ. 1909, pp. 45 ff.

**Odysseus the Ascetic.** — In *Mitt. Vorderas. Ges.* XVI, 1911, 4 (viii, 215 pp.), C. FRIES publishes under the title 'Studien zur Odyssee. II. Odysseus der Bhikshu' an elaborate study in which he compares the wander-



ings and sufferings of Odysseus to those of an Oriental hero undertaken for purposes of purification. Odysseus is a cosmic hero. He is the Sun which puts to flight the Stars (suitors) which surround the Moon (Penelope).

**Methods of Wearing the Hair in Athens.**—In *Class. Phil.* VI, 1911, pp. 479-481, F. B. TARBELL discusses the archaeological evidence for the methods of hair-dressing used by girls and by married women at Athens.

**The Greek Commonwealth.**—Another book of popularization in the best sense has been issued by the Clarendon Press (ALFRED E. ZIMMERN, *The Greek Commonwealth; Politics and Economics in Fifth-century Athens*, Oxford, 1911, Clarendon Press. 454 pp.; 2 maps. 8vo. 8s. 6d. net). After four short chapters on the geography of Greece, the author discusses Politics in eight chapters: 'Fellowship, or the Rule of Public Opinion'; 'Custom or the Rule of the Family'; 'Efficiency, or the Rule of the Magistrate'; 'Gentleness, or the Rule of Religion'; 'Law, or the Rule of Fair Play'; 'Self-government, or the Rule of the People'; 'Liberty, or the Rule of Empire'; 'Happiness, or the Rule of Love.' The last chapter is a new translation of the funeral speech which Thucydides put into the mouth of Pericles. Seventeen chapters on Economics follow: One on 'Poverty'; one on 'Use and Want'; four on 'The Growing City'; six on 'City Economics'; five on 'Imperial Economics.' The Conclusion treats of the Peloponnesian War. A chronological table, indexes, etc., are appended. The attempt is made to infuse life into our conceptions of Greek life and history, especially at Athens, but also, in so far as our information suffices, elsewhere. The thoughts and habits that underlay the sturdy and enthusiastic patriotism of the Athenians are, even more than the material aspects of ancient life, the real subject of the book. All sources of information—literary, epigraphical, and archaeological—are drawn upon.

**Some Dorian Descendants?**—In *B.S.A.* XVI (session 1909-1910), pp. 258-280 (2 pls.; 3 figs.), CHARLES H. HAWES publishes measurements and descriptions of the Albanians (Chegs), Tsakonians, and Sphakiots (in southwestern Crete), all of whom claim Dorian ancestry. He finds that no race is pure, but there is considerable agreement among the three, more particularly in the structural characteristics; and there is remarkable accord in the sagittal contours of the head. The main type is inclined to be of a more than average stature, and though in the main dark, has a considerable percentage of lighter-eyed, and a sprinkling of light or medium-haired.

**North Greek Festivals and the Worship of Dionysus.**—In *B.S.A.* XVI (session 1909-1910), pp. 232-253 (10 figs.), A. J. B. WACE describes festivals still celebrated, though with less completeness than a few decades ago, in northern Greece. In some regions the celebration takes place at or about the New Year, in others in the spring. A feature common to all is the death and resurrection of some one, usually a bridegroom. In most cases one of the two principal characters is disguised in skins or wears a skin mask. The songs sung often have to do with harvest, rain, or the like. Whether the festival is a survival of the worship of Dionysus or not, it is impossible to say.

**The Hybristika.**—In *B.S.A.* XVI (session 1909-1910), pp. 212-219, W. R. HALLIDAY discusses Herodotus VI, 83 (the account of the straits to which Argos was reduced by the victory of Cleomenes I), Plutarch, *Mul. Vist.* 245, E, F, and the various festivals in which women wear men's clothes,

men wear women's clothes, and slaves enjoy temporary freedom. These festivals may be originally connected with the passing from childhood to manhood or womanhood, or with marriage, and there hangs about them a sentiment of unity and good will, similar to that expressed by the exchange of gifts and cards at Christmas or the New Year.

## ITALY

### ARCHITECTURE

**Wooden Temples of Central Italy.**—The reconstruction of the ancient wooden temples of the Latins and Etruscans as covered with a sheathing of painted terra-cotta on walls as well as roof and cornice, was discussed by Herr Borrmann at the April (1910) meeting of the Berlin Archaeological Society, in connection with a posthumous publication on that subject from the Danish archaeologist, Ludvig Fenger, who died March 9, 1905. (*Arch. Anz.* 1911, cols. 41-42.)

**The Temple of the Dioscuri at Naples.**—The pediment group of the temple of the Dioscuri at Naples, which was destroyed by an earthquake in 1688, was discussed by A. Trendelenburg at the May (1910) meeting of the Berlin Archaeological Society. It is known through two written descriptions and a drawing made in 1540, which gives the inscription, a dedication to the Dioscuri and the City, with great accuracy. The figures are: A Triton at either end; next to these, personifications of Campania and the Voltumnus; then Apollo and Artemis, who were worshipped at Naples; then the Twin Gods, one of whom is missing; and in the centre, presumably, a personification of the City. To the last point Wilamowitz-Moellendorf objected that the dative *πόλει* is not to be taken in a religious sense, but as the receiver of a gift. (*Arch. Anz.* 1911, cols. 54-57.)

**The Palace of Diocletian at Spalato.**—In *Mel. Arch. Hist.* XXXI, 1911, pp. 247-275, a preliminary account of the present condition of the ruins of the palace of Diocletian at Spalato, and of its general arrangement, is given by E. HÉBRARD and J. ZEILLER, who have been engaged in this work for some years under the commission of the Académie des Inscriptions et Belles Lettres. Their complete report, including also a restoration of the palace, a study of the artistic influences which can be observed in its construction and which proceeded from it, and the history of the monument, is to be published during the current year in Paris.

### SCULPTURE

**Sculptures in Bologna.**—In *R. Arch.* XVIII, 1911, pp. 127-173 (24 figs.), PERICLE DUCATI, after giving a list of previously known ancient sculptures in Bologna, describes, illustrates, and discusses twenty-one hitherto unpublished works: (1) Broken head of a youth, of gray-brown basalt. A rather mechanical copy of a work of a time somewhat before 450 B.C. Probably Apollo. (2) Bearded herm, of marble. The inscription is published by Kaibel, *Inscr. gr. Siciliae et Italiae*, No. 1201. It may be compared with the herm in the Lateran, that from Ephesus (now in Vienna) and the herm by Alcamenes, from Pergamon. (3) Torso of a youth, of a style somewhat later than that of Polyclitus, perhaps Attic, perhaps a more direct

continuation of Polyclitan tradition. It bears some resemblance to the right-hand (from the spectator's point of view) figure in the group from Ildefonso. (4) Torso of a youth, which is compared to the left-hand figure in the group from Ildefonso. Perhaps Apollo. (5) Torso of Aphrodite. Apparently the goddess was arranging her hair. (6) Torso of crouching Aphrodite, finely wrought. A variant of the type of the Aphrodite by Doidalsas. (7) Group of a young Satyr with the infant Dionysus on his shoulder. It resembles closely the replicas in Naples and in the Villa Albani. (8) Torso of a hero, perhaps one of the Dioscuri, derived from an original of the fifth century. It may be compared with the Diomedes in Munich. (9) Fragment (upper part of female figure in high relief) from an Attic grave-stele of the end of the fifth century. (10) Votive relief to the Dioscuri, well composed and executed. Probably made early in the fourth century. (11) Fragment (Victory) of a "citharedic" relief. Before the winged Victory is an omphalos. (12) Fragment of a bas-relief of the time of Augustus. A sacrifice (or procession) was represented. Only a ram's head is well preserved. (13) Funerary urn decorated with ivy and, at the corners, with rams' heads (*C.I.L.* VI, No. 13756; Altmann, *Die römischen Grabaltäre*, Fig. 99, p. 124). A fine example of work of the Claudian period. (14) Round urn of Hermippus (*C.I.L.* VI, No. 10088, Altmann; *l.c.* p. 133). Only half is preserved. Decorated with armor, two boars, two bulls, and a chariot. (15) Urn of Musius Trophimus (*C.I.L.* VI, No. 22765; Altmann, *l.c.* p. 129, No. 118 and p. 271). Below the inscription, the drunken Silenus on an ass. (16) Roman portrait (Livia?). (17) Head of Lucius Verus. (18) Fragment of a male head detached from a relief of the time of the Antonines. (19) Head of a young man, of the time of the Severi, perhaps a portrait of Alexander Severus. (20) Portrait of a young woman of the time of the Severi. (21) Female portrait head of late imperial times. The coiffure of the first century A.D. is imitated.

**Roman Remains in the Renaissance.**—In *Röm. Mitt.* XXVI, 1911, pp. 288-328 (pl.; 17 figs.), P. G. HUEBNER presents the results of his studies of Roman antiquities as known to the artists of the Renaissance, with special reference to the Jupiter of Versailles and other statues of the Villa Madama; to the drawings of van Heemskerck representing statues; to the placing of the Dioscuri of Monte Cavallo; and the pedagogue of the Niobe group. The plate reproduces a painting of van Heemskerck's at Haarlem, representing the excavation of the Jupiter of Versailles, with a Roman background of interest to every student of topography.

**The Statue of an Athlete in the Capitoline Museum.**—A statue of an athlete in the Capitoline Museum (unhappily restored by the addition of an ancient head of Augustus) has been newly examined by ADA MAVIGLIA, whose results appear in *B. Com. Rom.* XXXIX, 1911, pp. 137-157 (11 figs.). It had been pronounced by Petersen a replica of the Diadumenus of Polyclitus, but the writer, comparing it with the so-called Diadumenus of Madrid, and after careful study of the methods of throwing the javelin, claims the discovery of a new motive in sculpture,—that of the athlete in the act of winding up the thong (*amentum*), preparatory to throwing his javelin.

**A Roman Portrait Bust.**—In *Jh. Oest. Arch.* I. XIV, 1911, 121-129 (2 pls.; 6 figs.), H. SITTE publishes a small Roman portrait bust (Fig. 6)

found at Wels (the Roman Ovilava), Austria, and now in the museum of that town. It is of bronze with eyes of silver set in, and represents a curly-haired, smooth-faced man who has not been identified. It dates from the first half of the second century A.D. and is an interesting example of Roman portraiture.



FIGURE 6.—ROMAN PORTRAIT  
BUST.

**A Roman Portrait Head.**—A marble head, the portrait of some young member of the Julian-Claudian family, found some sixty years ago at Bosham in Sussex, England, is published by E. HAVERFIELD in *Arch. Anz.* 1911, cols. 306-308. It is not certainly known whether this is a relic of Roman times in Britain, possibly coming from the neighboring Chichester, which was the home of the petty king Cogidubnus, or was brought from Italy in modern times and temporarily lost.

**A Bronze Statue.**—The reconstruction of a bronze statue, apparently of Valens or Valentinian I, found in fragments in the bed of the Tiber near Ponte Sisto, is attempted by G. DEHN in *Röm. Mitt.* XXVI, 1911, pp. 238-259 (2 pls.; 12 figs.).

**Roman Reliefs in the Louvre.**—In *B. Soc. Ant. Fr.* 1910, pp. 373-377, E. MICHON calls attention to two pieces of a frieze ornamented with masks and palmettes which has been in the Louvre for about one hundred

years. He compares them with twelve fragments of a similar frieze found by Boni in 1900 in the sanctuary of Juturna in Rome and with nine other fragments found in other parts of Rome and suggests that they may have belonged to the same building.

**Reliefs of the Arch of Constantine.**—The medallions on the Arch of Constantine are the subject of fresh study by MARGARETE BIEBER in *Röm. Mitt.* XXVI, 1911, pp. 214-237 (2 figs.; pl.). She is convinced that the medallions were produced in the time of Hadrian and in his honor; that the heads in the sacrificial scenes (Hercules and Apollo) were worked over into the features of Philippus Arabs for a monument commemorating the millennium of the city, in 248 A.D.; that Constantine, who interpolated his own features into all the other reliefs, spared those of Philippus alone, because as a Christian he did not wish to appear in pagan sacrifices. In *Berl. Phil. W.* XXXI, 1911, cols. 1239 f., J. SIEVEKING states that after a fresh examination of the heads in the medallions on the arch of Constantine from the casts at St. Germain, he is convinced that the only well-preserved head on the south side (No. 32) represents Constantine. He rejects Miss Bieber's identification of the two heads in the Apollo and Hercules sacrifice on the north side as portraits of Philippus Arabs.

**Roman Reliefs in Belgrade.**—Two reliefs in the museum of Belgrade are interpreted by M. ROSTOWZEW in *Röm. Mitt.* XXVI, 1911, pp. 267-283 (2 figs.). One represents a Roman speculator on a journey in a four-wheeled

carriage; the other a Roman banker or merchant in the act of looking over his accounts.

**Roman Gravestones in Dacia.** — In *Dolgozatok az Erdelyi Nemzeti Múzeum*, II, 1911, pp. 275-287 (9 figs.), A. SCHÖBER publishes nine Roman gravestones from Dacia, on which two or more busts are carved within a circle or wreath. This type of monument is also found in Pannonia.

#### VASES AND PAINTING

**An Ossuary from Este.** — In *B. Pal. It.* XXXVII, 1911, pp. 72-103, G. GHIRARDINI discusses an ossuary found at Este. It is a vase 28 cm. high and 30 cm. in diameter, and has a black ground adorned with red figures of men and animals. The latter, eleven in number, are of four types, one of which represents a stag. The date is probably not earlier than the second half of the fifth century, and Ghirardini believes that the decoration shows the attempt of a local artist to treat figures borrowed from the native art (as shown on *situlae* which he describes) in a manner imitating imported Greek red-figured vases.

**A Vase in the Castellani Collection.** — A vase with figures of Minerva, Hercules, and Hebe, in the Castellani collection of the Conservatori Museum is considered in detail by N. PUTORTI in *B. Com. Rom.* XXXIX, 1911, pp. 68-79 (2 figs.). It is Etruscan, or Faliscan.

**South Italian Vases.** — To the history of the ceramic art in the south of Italy V. MACCHIORO makes a valuable contribution in *Röm. Mitt.* XXVI, 1911, pp. 187-213, based largely upon studies in the archives of the Naples museum, to determine the provenance of the vases.

**Architectural Landscape in Roman Painting.** — An elaborate treatise on architectural landscape in Hellenistic-Roman decorative painting by M. ROSTOWZEW appears in *Röm. Mitt.* XXVI, 1911, pp. 1-185 (11 pls.; 67 figs.). A large part of the work is devoted to architectural landscape in the second, third, and fourth Pompeian styles respectively; the remainder to the types of buildings found in the Roman and Pompeian landscapes, as compared with the products of Hellenistic and Greek art, in reliefs, ceramics, etc. The literary sources for Roman landscape are fully treated, while an excursus considers landscape in decorative painting, reliefs, and mosaic, outside of Pompeii and after its destruction.

**The Fresco Paintings of the Villa Gargiulo at Pompeii.** — In *Berl. Phil. W.* XXXI, 1911, col. 727, O. ROSSBACH defends his interpretation of No. XVI of the fresco paintings of the Villa Gargiulo, reasserting that the object held by the kneeling woman is a tunny. P. HERMANN, discussing the same fresco (*ibid.* XXXI, 1911, cols. 757 ff.), sides with Sieveking and holds there can be no doubt but that the object is a basket containing the covered phallos. The kneeling woman is on the point of uncovering the contents of the basket; the other turns away in horror and lifts a lash or switch to strike her. In other words, this is not a "flagellation scene."

#### INSCRIPTIONS

**A Fragment of a Lex Horreorum.** — In *Rend. Acc. Lincei*, XX, 1911, pp. 79-83, A. VOGLIANO, comparing the *lex horreorum* published by Gatti (*B. Com. Rom.* 1885, pp. 119 ff.) and a similar inscription published by

Marini (*Inscrizioni dolari*, p. 114), partially completes the fragment reported by Pasqui in *Not. Scav.* 1910, p. 90. He also restores the fragmentary Greek grave inscription found at Ostia (*Not. Scav.* 1910, p. 16).

**The Fasti of the Augurs.**—A new fragment of the Fasti of the augurs, found apparently in the excavation of the Basilica Aemilia, some years ago, and then lost, has been recovered and placed in the collection at S. Francesca Romana. It is of early imperial date, but relates to the cooptation of certain augurs of 462, 439, and 390 B.C. (G. GATTI, *B. Com. Rom.* XXXIX, 1911, pp. 180-183.)

**The Gamala Inscriptions at Ostia.**—In *Mél. Arch. Hist.* XXXI, 1911, pp. 143-230, J. CARCOPINO discusses exhaustively the two Gamala inscriptions at Ostia (*C.I.L.* XIV, 375, 376). He maintains the authenticity of the latter part of No. 376, and supports Homolle's theory that these inscriptions do not refer to one man, P. Lucilius Gamala, but to two of that name, the elder of whom held office in Ostia from the latter part of the reign of Augustus to the first years of Claudius, and the younger died in 179 A.D. One inscription (375) was engraved in 44 A.D., and the other (376) between 166 and 180. These conclusions find additional support in recent topographical discoveries at Ostia.

**A Roman Military Diploma.**—In *Jh. Oest. Arch.* I. XIV, 1911, pp. 130-134 (2 figs.), V. DOBRUSKÝ publishes a bronze military diploma found at Prodanovci, Bulgaria, and now in the museum at Sofia. It is the first leaf of a diptych, engraved on both sides, and almost perfectly preserved. It bears the name of the emperor, Maximinus Thrax, and dates from the year 237 A.D.

**Funeral Inscriptions.**—In *Atene e Roma*, XIV, 1911, cols. 214-224, A. DE-MARCHI collects under the title 'Cronaca e facezia nelle iscrizioni sepolcrali latine' a number of funeral inscriptions from *C.I.L.* which record violent deaths in the manner of modern newspaper paragraphs. He also adds a number of epitaphs which, for one reason or another, appear absurd.

**Inscriptions with the Name of Domitian.**—In *Rend. Acc. Lincei*, XX, 1911, pp. 197-204, G. CORRADI emends two Greek inscriptions which mention Domitian, *C.I.G.* III, 5043 and 4333.

**Sepulchral Inscriptions in Baltimore.**—In *The American Journal of Philology*, XXXII, 1911, pp. 166-187, II. L. WILSON publishes thirty-four Latin sepulchral inscriptions, for the most part found in Rome, now at Johns Hopkins University, Baltimore.

**Epigraphic Bulletin.**—In their 'Review of Epigraphic Publications relative to Roman Antiquity' for January-June, 1911, R. CAGNAT and M. BESNIER give the text of eighty-eight inscriptions and notes on epigraphic publications. Twenty inscriptions are in Greek, one in Greek and Latin, the others in Latin.

#### COINS

**Unpublished Roman Coins.**—Sixty-seven coins of the empire, from Nero to Julian, belonging to the collection of Joachim Scheyer of Milan, are now published by F. GNECCHI (*R. Ital. Num.* XXIV, 1911, pp. 151-164; pl.). L. PAULON publishes (*ibid.* pp. 185-198; pl.) fifty-eight coins of the republic and empire from his own collection which are either thus far entirely unpublished or show variations from already known types.



**Roman Coins with Names of the Moneyers.**—The series of articles by L. LAFFRANCHI on various styles in Roman coinage is continued by one (*R. Ital. Num.* XXIV, 1911, pp. 319–327; pl.) on the last Roman coins (*quadrantes*) that contain the names of the *triumviri monetales*. These coins the writer assigns to the reigns of Tiberius, Gaius, and Claudius, and judges that they show the waning influence of the senate over coinage.

**Two Hoards of Republican Bronzes.**—Two recently discovered hoards of bronze coins of the Roman republic have probably contributed more than any other similar finds toward the settlement of many vexed questions of date, successive weight reductions, and the like, that have long engaged the attention of numismatists. One of these hoards was discovered in the neighborhood of Ostia in August, 1908, and 176 pieces of it were described by F. Gnechi (*R. Ital. Num.* 1909, pp. 11 ff.). The complete hoard numbered 232 pieces, and was remarkable among other things for the inclusion of no less than three dupondii of the uncial system, all restruck on other pieces. The number of known uncial dupondii is thus increased to five. The second hoard was found at Avola (Sicily), and described by P. Orsi (*Not. Scav.* 1909, pp. 62 ff.). LORENZINA CESANO now examines both hoards in detail, with various analytic tables and classifications, and propounds a considerable number of highly important conclusions therefrom. The five known uncial dupondii are pictured in a plate. (*R. Ital. Num.* XXIV, 1911, pp. 275–317; pl.)

**Dated Coins of Caesar and Antony.**—The inscription  $\text{LII}$  on an aureus of Julius Caesar must be interpreted as commemorating the fact that fifty-two years had elapsed between 102 B.C., when Caesar's kinsman, Marius, repulsed the Teutons, and 49 B.C. (the date of the coin), when Caesar had just completed the subjugation of Gaul. The inscriptions  $\text{XL}$  and  $\text{XLI}$  on coins of Antony struck at Lugdunum mark an attempt, for which abundant precedent can be found in post-Alexandrine Greece and even on a coin of Nemausus, to chronicle the establishment of the town by reference to the years of life of him, its official founder and *patronus*. (M. CASPARI, *Num. Chron.* 1911, pp. 101–108; 2 figs.)

**Coinage of the Second Triumvirate.**—The history of the triumvirate of Antony, Lepidus, and Octavian from 44 to 31 B.C., is reviewed by H. A. GRUEBER, with reference to its illustration from coinage, in *Num. Chron.* 1911, pp. 109–152 (2 pls.).

**A Bronze of Q. Oppius.**—In *J. Int. Arch. Num.* XIII, 1911, pp. 25–30, W. v. VOIGT discusses a Roman bronze coin which has on the obverse Venus with a diadem facing to the right, and behind her a half moon; and on the reverse, Victory holding a palm branch and basket moving to the left, but with head turned to the right, and inscribed Q. OPIIVS PR. It was coined outside of Rome about 36 or 31 B.C.

**A Silver Medallion of Geta.**—In *Ber. Kunsts.* XXXII, 1911, cols. 183–185 (2 figs.), K. REGLING publishes a silver medallion from the Weber sale and now in the Berlin museum. It has on the obverse the head of Geta with the legend *P. Septimius Geta Caes.*, and on the reverse three goddesses with scales and horn of plenty with the words *aequitati publicae*. It was coined shortly before 209 A.D. and is a unique piece.

**Bordered Medallion of Decius and Etruscilla.**—A bordered medallion with the head of Decius on one side and of Etruscilla alone on the other, a type not before known, was found at Rome toward the end of the



year 1910, and came into the possession of F. GNECCHI, who publishes it in *R. Ital. Num.* XXIV, 1911, pp. 147-148 (fig.).

**The Coins of Constantine.**—In the second volume of his elaborate study of the coins of Constantine, JULES MAURICE discusses, by way of introduction, the religious history of his reign, the solar dynasty of the second Flavians, the Christian empire of Constantine, a new theory on Christian signs on coins, and deified abstractions on the reverses. He then describes in succession the coins from the mints of London, Lyons, Arles, Tarragona, Siscia, Sirmium, Serdica, Thessalonica, Constantinople, and Heraclaea in Thrace. A third volume dealing with the eastern mints will complete the work. [*Numismatique Constantinienne*. Par JULES MAURICE. Paris, 1911, Leroux. Vol. II, cxxxvi, 612 pp.; 17 pls.]

**Monetary System of Etruria.**—The first part of a treatise by a Hungarian, E. KOVÁCS, on the monetary system of Etruria, appears in a French translation in *R. Ital. Num.* XXIV, 1911, pp. 367-403, and other parts will follow (see *A.J.A.* XV, p. 569).

**Aquileia-Chrysopolis.**—W. KUBITSCHKE is yet unconvinced by the discovery of a third lead tessera with the Chrysopolis inscription that the name is not due to falsifications by Cigoi. (*Num. Z.* 1910, pp. 44-47, pl.; cf. *ibid.* 1909, pp. 38 ff.)

**Hail to Hadrian.**—W. KUBITSCHKE would combine and interpret the abbreviated inscriptions on the two sides of a lead tessera published in the *Catalogue des plombs de la bibliothèque nationale* by Rostowzew and Prou (Paris, 1900; p. 43), as *Augusto Hadriano salus felix Sabina*, for the form of which greeting he quotes abundant precedent. (*Num. Z.* 1911, pp. 47-49.)

**Type of Roma on Colonial Coinages.**—The imitation of the type of Roma head on denarii of the republican era by certain cities which owned Roman origin, is discussed by G. PANSA in *R. Ital. Num.* XXIV, 1911, pp. 199-208 (5 figs.).

**Fabrication of Medals of Two Metals.**—In *R. Ital. Num.* XXIV, 1911, pp. 165-184, R. MOWAT discusses the use of medallions in general, and the mode of their fabrication, especially of those of two metals.

**The Temple of Jupiter Vltor.**—A medal of Alexander Severus, representing a temple in a peribolus, approached by a broad staircase and propylaea, is used by P. BIGOT (*B. Com. Rom.* XXXIX, 1911, pp. 80-85; 3 figs.), to combat Huelsen's site for the Temple of Apollo. Bigot identifies the temple on the medal with that of Jupiter Vltor, and places it in the Vigna Barberini, close to S. Sebastiano.

**Bordered Medallion with Apparatus for Suspension.**—The theory that large medallions of bronze were used for the adornment of military standards has lacked support by the discovery of any that showed traces of arrangements for such attachment. The medallion in the possession of E. J. Seltman, believed by him to show such signs, does not appeal to all others (cf. R. Mowat in *R. Ital. Num.* XXIV, 1911, p. 167 and note). F. GNECCHI now publishes a bordered medallion of Commodus, to which is attached a chain of three figure-of-eight links, ending in a fourth larger and of the character of a clasp. Gneecchi is sure that it cannot have been thus hung on a military standard, but is unable further to define its purpose. (*R. Ital. Num.* XXIV, 1911, pp. 129-130; fig.)

**Medallion attached to a Roman Standard.**—C. O. SELTMAN takes up the cudgels in defence of the attribution to a Roman standard of the medallion of Nero owned by E. J. Seltman, on which doubt was again cast by R. Mowat in an article in *R. Ital. Num.* XXIV, 1911, pp. 165 ff. (see above). M. Seltman promises a fuller article soon, and adds a few remarks against M. Mowat's theory that the outer ring of metal in the case of bordered medallions was to strengthen the flange against the blows of the hammer. (*R. Ital. Num.* XXIV, 1911, pp. 407-409.)

#### GENERAL AND MISCELLANEOUS

**Early Inhabitants of Capri.**—In *B. Pal. It.* XXXVII, 1911, pp. 57-62, two Italian geologists, BASSANI and GALDIERI, after a study of the strata in excavations near the Certosa at Capri, discuss the age of instruments found there, and suggest the probability that the island was inhabited as early as the end of the glacial period, or a little later, by a race which already knew the use of fire.

**Eneolithic Civilization in Umbria.**—The contents of a tomb at Cerreta in Umbria, described by G. A. COLINI in *B. Pal. It.* XXXVII, 1911, 63-71, bring additional proofs of the existence of an eneolithic civilization in Umbria.

**Italo-Etruscan Antiquities from Nemi.**—A terra-cotta *tempietto* from Nemi and some other unpublished monuments of the Italo-Etruscan period are exhaustively treated by G. E. RIZZO in *B. Com. Rom.* XXXVIII, 1910, pp. 281-321 (8 figs.; 3 pls.); and XXXIX, 1911, pp. 23-61 (13 figs.); with appendix on pertinent discoveries by R. MENGARELLI (pp. 62-67).

**The Roman Fasti.**—In *Rend. Acc. Lincei*, XX, 1911, pp. 315-338, T. GEORGI controverts G. Costa's conclusion that the Roman Fasti are derived from one source, and criticises most sharply his attempts to restore them to their original form.

**The Lex Latina of Heraclea.**—In *Rend. Acc. Lincei*, XX, 1911, pp. 157-168, E. PAIS, in his third article on the nature and date of the *Lex Latina* of Heraclea refutes G. De Sanctis' contention (*Atti della R. Accademia delle Scienze di Torino*, Vol. XLV. Adunanza 26 dic. 1909, p. 13 dell'estratto) that the law is not a *lex satrapica*, but a code borrowed from Rome by the Heracleotes. The date 45 B.C. cannot be inferred from Cicero *ad Fam.* VI, 18. That Caesar had no need to have recourse to *leges satrapicae* as being all-powerful, he denies. The incoherence of the law, which seems to De Sanctis un-Caesarean, may be due to the conservatism of legal terminology; and, furthermore, Caesar is not to be held accountable for the external form of the law. These laws are not an excerpt or digest of Roman laws chosen by Heraclea, for even if she had had the right to choose, the decadent little city would hardly have chosen Rome's aedile laws or those touching the *res sacrorum*, or Roman triumphs. De Sanctis thinks the collection due to the Hellenic city's love of codifying laws; but Heraclea must have lost by this time its Greek character almost completely.

**The Horrea Germanicana.**—The remains of buildings on the south-west side of the Temple of Augustus, which had been conjecturally identified with the *Horrea Germanicana* of the *Notitia* (cp. Platner, 2d ed. p. 165), are now announced as the *Horrea Germanicana et Agrippiana* by G. S. GRAZIOSI. (*B. Com. Rom.* XXXIX, 1911, pp. 158-172; fig.)

**The Corona Nuptialis.** — In *Mél. Arch. Hist.* XXXI, 1911, pp. 309-319, J. SCHRIJNEN attempts to show that during the third century A.D. the use of the ancient Roman *corona nuptialis* was revived at Christian weddings, and that evidence in support of this view can be found in certain representations on vases (*fondi d'oro*) of the third and fourth centuries.

**Mediaeval Views of Rome.** — Some hitherto unknown perspective views of Rome by artists of the Quattrocento are published by CH. HUELSEN in *B. Com. Rom.* XXXIX, 1911, pp. 3-22 (fig.; 5 pls., one in colors). The paintings are from the fronts of coffers (*cassoni*) in the Jarves collection at New Haven, at Hanover, or at Turin.

**Roman Foot Rules.** — In *B. Soc. Ant. Fr.* 1910, pp. 343-347, A. HÉRON DE VILLEFOSSE publishes a list of Roman foot rules of bronze found in different parts of France. One folds up into three sections, the others fold in the middle. Other specimens have been found in Italy, Switzerland, and elsewhere. An ivory rule at Brugg has marks upon it dividing it into twelve equal parts on the upper side, and into four parts on the lower. The bronze rules are usually marked off into sixteen equal parts.

**The Topography of Naples.** — In *Boll. Arte*, V, 1911, pp. 135-144 (fig.), A. SORRENTINO discusses the evidence for the topography of ancient Naples and concludes that the archaeological discoveries confirm the statement of Livy that Palaeopolis and Neapolis were distinct towns near each other; and that the former was located at S. Giovanni Maggiore.

**The City Walls of Ostia.** — In *Berl. Phil. W.* XXXI, 1911, cols. 1390 f., A. W. VAN BUREN corrects the report of the excavations in Ostia given in *Not. Scav.* 1910, p. 134, in one respect: "The wall as originally constructed had no opus quadratum facing; but consisted, in its plain stretches, simply of the opus incertum at present existing, which, however, has this structural peculiarity, that it was laid not with a perfectly plain vertical exterior, but with slight horizontal rebates at intervals of about .5 meter, the only projecting corner which is now visible being faced with small rectangular blocks."

**Late Roman and Byzantine Guilds.** — In his *Spätrömische und byzantinische Zünfte* (Leipzig, 1911, Dieterich, x, 180 pp. *Klio*, Beiheft IX) A. STÖCKLE publishes a careful study of late Roman and Byzantine guilds as set forth in the *Edict of Leo the Wise*. He discusses the number and functions of the guilds, their organization, relation to the state, etc., and adds full indices.

**The Burgarii.** — In *B. Soc. Ant. Fr.* 1911, pp. 128-132, É. CHÉRON shows that, as J. Godefroy declared in 1736, the *burgarii*, that is, the inhabitants of the *burgi* or small forts erected to protect the Roman *limes*, were public slaves. They do not appear to have existed as a class after the fourth century A.D.

## SPAIN

**The Human Figure on Neolithic Monuments.** — In *R. Ét. Anc.* XIII, 1911, pp. 437-452 (56 figs.), G. H. LUQUET discusses the representations of the human figure on Iberian neolithic monuments. He divides them into three classes according to their apparent date and thinks that they point to the cult of a fertility divinity.

**An Inscription from Sasamón.** — In *C. R. Acad. Insc.* 1911, pp. 402-406

(fig.), E. Albertini publishes a Latin inscription found at Sasamón (Burgos) in 1905, upon which the adjective *Suestatiensis* occurs. The correct spelling of the name of the town Suestatium, which was about one hundred miles from Sasamón, was not previously known.

**Decipherment of Inscriptions in Spain.**—In *Exp. Times*, XXII, 1911, p. 520, R. M. LITHGOW claims that Major Santos Ferreira has discovered four separate alphabets, whereby he has been enabled to read on old coins, etc., inscriptions which have hitherto been supposed to be in an illegible Celtiberian language. These coins give as a rule the name of the colony in Latin or Greek, but have besides another inscription in this unknown speech. His discoveries disclose this to be Hebrew, or some language allied to it.

**The Iron Javelin of the Iberians.**—In *R. Ét. Anc.* XIII, 1911, pp. 453-456 (2 figs.), J. DÉCHELETTE points out that an iron javelin found in 1878 at Avezac-Prat, in Hautes-Pyrénées, is the weapon called by Diodorus (V, 34) *σάτυρον ὀλοσίδηρον*. It is 1.82 m. long, barbed, and entirely of iron. It is an Iberian invention.

## FRANCE

**Names on the Arch at Orange.**—In *B. Soc. Ant. Fr.* 1910, pp. 384-390 (fig.), J. DÉCHELETTE argues that the inscriptions on the Gallic shields on the Roman arch at Orange are the names of makers of shields, not of Gallic chiefs. He compares the knife scabbards made at Baden (Aquae Helveticae) inscribed with the name Gemellianus.

**Sigilla Ware at La Madeleine.**—In *Röm.-Germ. Kb.* IV, 1911, pp. 90-93, DELMANN discusses the type of sigilla ware made at La Madeleine during the reign of Trajan.

## HOLLAND

**Frisian Pottery and Sigilla Ware.**—In *Röm.-Germ. Kb.* IV, 1911, pp. 60-64, P. C. J. A. BOELES discusses the pottery and sigilla ware found in the so-called *Terpen* (mounds) in Friesland and Groningen (Holland). The native Frisian ware he dates from the first century A.D. and later. The sigilla ware (more than 200 fragments with some perfect specimens are now placed in the local museum) represents different types, throwing an interesting light on the early history of Roman occupation and Roman trade.

## SWITZERLAND

**Funerary Furniture from the Dolmens of Les Cévennes.**—In *R. Ét. Anc.* XIII, 1911, pp. 430-436 (pl.; 3 figs.), A. CARTIER calls attention to various objects excavated near dolmens in Les Cévennes and now in the museum at Geneva. They consist of spear and arrow heads of stone, bronze daggers, pins, rings, etc.

## GERMANY

**The Site of Aliso.**—LUDWIG SCHMIDT discusses the site of Aliso; rejecting both Oberaden and Haltern, he places it further up the Lippe, and thinks it probable that Aliso was founded on the site of Tiberius' winter quarters (campaign of 4-5 A.D.) near the modern Elsen. (*Röm.-Germ. Kb.* IV, 1911, pp. 93-95.)

**Marble Coverings on Roman Walls at Trèves.** — In *Röm.-Germ. Kb.* IV, 1911, pp. 76 f., E. KRÜGER discusses the method of attaching marble coverings to the walls of Roman buildings, prevalent in Trèves. The marble slabs were fastened to the concrete by long iron clamps, one end bent into the shape of hooks. Mortar and not lead is the only material found to have been used to hold them in place. The museum at Trèves possesses a large number of these clamps.

### AUSTRIA-HUNGARY

**A Silver Vase from Arras in Vienna.** — In the *Codex Pighianus* of the Royal Library of Berlin, there are, besides copies of inscriptions, drawings of ancient monuments belonging to Cardinal de Granvelle. Among these appears a silver vase adorned with two bands of decoration, the upper representing masks and various animals, the lower, sea monsters. In *M. Soc. Ant. Fr.* LXX, 1910, pp. 135-210 (2 figs.), É. MICHON shows that this vase, found at Arras in the sixteenth century, still exists in the museum at Vienna. A bust of Jupiter and a head of Juno belonging to the same collection are now in the Louvre.

**Archaeology in Croatia.** — In *Vjesnik, Nove Serije Sveska*, XI, 1910-11, the following articles, written in the Croatian language, are of archaeological interest: pp. 23-39 (5 figs.), J. BRUNŠMID discusses a Roman military diploma from Sisak; pp. 61-144 (266 figs.), the same writer continues his publication of the monuments in stone in the Croatian National Museum at Agram (Zagreb); pp. 145-240 (31 figs.), V. HOFFILLER discusses the equipment of the Roman soldier in early imperial times; pp. 241-277 (fig.), J. BRUNŠMID examines certain hoards of coins found in Croatia and Slavonia.

**Unpublished Dacian Coins.** — In *Dolgozatok az Erdelyi Nemzeti Múzeum*, II, 1911, pp. 288-300 (6 figs.), I. KOVÁCS describes six unpublished Dacian coins in the National Museum at Kolozsvár, Hungary. He also publishes an Istrian coin of Alexander Severus with a figure of Tyche on the reverse.

### GREAT BRITAIN

**Palaeolithic Remains at Northfleet.** — In *Archaeologia*, LXII, 1911, pp. 515-532 (3 pls.; 3 figs.), R. A. SMITH discusses the palaeolithic implements found in great numbers in recent years at Northfleet, Kent.

**The Palaeolithic Periods at Knowle Farm Pit.** — In *Proc. Soc. Ant.* XXIII, 1911, pp. 453-461 (2 pls.), H. G. O. KENDALL discusses the palaeolithic implements which have been found in great quantities at Knowle Farm Pit. They correspond to the worked flints of Chelles, St. Acheul, Moustier, and Madeleine. He argues that the site was inhabited continuously for a very long time; and that the gloss on the flints was produced by pressure and rubbing, fine sand and iron.

**Pleistocene Man in Jersey.** — In *Archaeologia*, LXII, 1911, pp. 449-480 (6 pls.; 6 figs.), R. R. MARETT describes the contents of two caves excavated on the island of Jersey. One of them and probably both date from pleistocene times. See also *Proc. Soc. Ant.* XXIII, 1911, pp. 363-366.

**The Cave-Dwelling at Wookey-Hole.** — In *Archaeologia*, LXII, 1911, pp. 565-592 (2 pls.; 13 figs.), H. E. BALCH and R. D. R. TROUP describe the discoveries in the late Celtic and Romano-British cave-dwelling at Wookey-

Hole, near Wells, Somerset. These include weapons and tools of iron, bronze brooches, pins, needles, spindle whorls, querns, pottery, one lamp, human remains, Roman coins, etc. See also *Proc. Soc. Ant. XXIII*, 1911, pp. 403-406.

**Lake-Dwellings in Holderness.**—In *Archaeologia*, LXII, 1911, pp. 593-610 (2 pls.; 12 figs.), R. A. SMITH discusses the lake-dwellings discovered in Holderness, Yorkshire, in 1880-1881.

**A Prehistoric Route in Yorkshire.**—In *Proc. Soc. Ant. XXIII*, 1911, pp. 309-325 (8 maps; 7 figs.), E. KITSON CLARK traces a prehistoric route across Yorkshire from Fridaythorpe by Stamford Bridge, York, Tadcaster to Ilkley on the basis of earthworks, barrows, and finds of stone implements.

**A Romano-Celtic Brooch.**—In *Proc. Soc. Ant. XXIII*, 1911, pp. 406-407 (fig.), E. T. LEEDS publishes a fibula of rare type found at Hook Norton, Oxfordshire. The best known example of the type is from Aesica, described by A. J. EVANS (*Archaeologia*, LV, p. 179). It dates from about 200 A.D.

## AFRICA

**The Commercial Harbor and the Sea Wall at Carthage.**—In *R. Arch. XVIII*, 1911, pp. 229-255 (4 plans), Dr. CARTON discusses remains of sea walls at Carthage. He finds that the commercial harbor of the Punic city occupied the site of the Roman *thermae* of Antoninus and the ground farther inland. This was filled with sand by the waves after the first destruction of Carthage. The harbor for ships of war was at the southern extremity of the city and was connected with the commercial harbor by a great wall in the sea, strongly fortified. The wall was prolonged beyond the Cothon harbor along the northern side of the canal that connected the gulf of Tunis with the lake and then along the lake until it joined the wall that came from the bay of Utica.

**Surveying in Roman Africa.**—In *M. Soc. Ant. Fr. LXX*, 1910, pp. 79-103, J. TOUTAIN discusses surveying in Roman Africa in the light of documents found in 1905, and shows that the criticisms of his work by Fr. Barthel (in *W. kl. Phil.* November 15, 1909) are untenable.

**The Name Agadir.**—In *B. Soc. Ant. Fr.* 1910, pp. 390-392, R. MOWAT calls attention to the fact that Agadir was the Phoenician name of Cadiz, as is shown by coins, and argues that the Moroccan town was a Phoenician foundation.

## EARLY CHRISTIAN, BYZANTINE, AND MEDIAEVAL ART

### GENERAL AND MISCELLANEOUS

**Prudentius' *Dittochaeon* and Palestine.**—In *Byz. Zeit.* XX, 1911, pp. 177-196, A. BAUMSTARK argues that the backgrounds indicated in the pictures described in Prudentius' *Dittochaeon* correspond so closely with the details of Palestinian localities as described in the pilgrims' itineraries that the poet must have had in mind a series of pictures done by or imitated from an early Christian artist of the school of Palestine. Such a series he believes may be found in the nave-mosaics of S. Apollinare Nuovo at Ravenna, in which the details of place-indication correspond closely to those in works of recognized Palestinian origin.



**Oriental Prototypes for Early Western Art.**—Sir MARTIN CONWAY publishes in *Burl. Mag.* XIX, 1911, pp. 338-344, an "approximation" of the Gundestrup silver caldron in the Museum of Norse Antiquities at Copenhagen with certain Sassanid silver plates which indicates an Oriental origin for the decoration of the western monument. The same relation may be seen by comparing the Gothic gold and garnet ornaments from Varna in the Berlin museum with the ear-rings represented in the sculptures of the Bharhut Tope.

**The Relief of Porphyrios.**—In *R. Arch.* XVIII, 1911, pp. 77-85 (5 figs.), JEAN EBERSOLT discusses the monument of Porphyrios, which stands in the atrium of the church of St. Irene, at Constantinople. It is the monument of a charioteer of the end of the fifth century. On one side Porphyrios stands holding a palm and a crown, and beside him are two children holding his helmet and his whip. On the other three sides Porphyrios appears in his four-horse chariot. In a lower register are, on two sides, spectators in the hippodrome, on the west side two grooms and eight horses. On this side two winged victories hold crowns over the charioteer's head. The sculpture is not refined, but it still exhibits the vigor and something of the taste of earlier, classic art.

**Byzantine Art and Archaeology.**—In his *Byzantine Art and Archaeology* O. M. DALTON of the British Museum has published an important work for the study of the art and archaeology of Byzantine times. After a discussion of the general characteristics of his subject and its geographical extent he takes up in turn sculpture, carvings in ivory, painting, mosaics, illuminated manuscripts, enamels, goldsmith work and jewelry, silver plate, textiles and embroidery, pottery and glass, metal work, weights, coins, seals, engraved gems, iconography and ornament. The book is abundantly illustrated. [*Byzantine Art and Archaeology.* By O. M. DALTON. Oxford, 1911, Clarendon Press. 727 pp.; 427 figs. 8vo. £1.18.]

**A Byzantine Boulloterion.**—In *C. R. Acad. Insc.* 1911, pp. 411-417 (2 figs.), G. SCHLUMBERGER publishes a Byzantine *boulloterion* or instrument for stamping lead seals recently found at Brussa, Asia Minor. In form it is like a pair of pincers with a heavy cylinder on each of the jaws. The designs were cut on the inner ends of these cylinders. The lead flan was placed between them and a heavy blow struck with a hammer. This stamp has on one side a figure of St. Theodore and the inscription ὁ ἅγιος Θεόδωρος, and on the other ΚΟΥΤΙΣ(?) Σεβαστὸς τὰς γραφὰς σφίγκτος (for σφίγκτως) δέω οὐρανίον μάρτυρος ἐν παρουσίᾳ. It seems to date from the twelfth century. No other such specimen is known. The hammer which was used with it was also found.

**Byzantine Lead Seals.**—In *J. Int. Arch. Num.* XIII, 1911, pp. 1-24, N. A. BEES discusses twenty-nine Byzantine lead seals. *Ibid.* pp. 31-32, K. M. KONSTANTOPOULOS shows that the word read ΑΒΑΗΤΗΣ by Schlumberger (*Sigillographie de l'Empire Byzantine*, pp. 739 f.) on a Byzantine seal really reads ΑΒΑΗΤΗΚ[8]. The κοιμερικήριος Θεσσαλονίκης is elsewhere called ἀβνδικός or ἀβνδικός.

**Trade Routes and the Art of Germany.**—B. HAENDCKE discusses the relation of trade routes in European culture in a suggestive article in *Rep. f. K.* XXXIV, 1911, pp. 337-391. He points out that a relation can be seen even in late Carolingian times between the roads to Italy and the spread of



Italian culture in the North, and the extension of the Cistercian order is a striking example of the effect of trade routes on the geography of civilization. The curious scattering of the works of Conrad Witz, the influence of Schwaben on the art of the Tyrol, the wanderings of a number of German artists, the location of Dürer's landscape sketches made on his Italian trip, etc., depend upon the direction and popularity of the commercial routes of the time. Even so late as the end of the sixteenth century, the influence of the Netherlands on German art was doubtless much heightened by the construction of the Holland road by Augustus of Saxony.

**Lombard and Gothic Vaults.**—In his monograph entitled *The Construction of Lombard and Gothic Vaults* (New Haven, 1911, Yale University Press; London, Henry Frowde. 29 pp.; 63 figs. Lex. 8vo), ARTHUR KINGSLEY PORTER shows that rib vaulting, which had been known to the Roman and Byzantine architects, though they had no great liking for it, was used by the mediaeval Lombards in order to do away with the need of great wooden centring. The French architects adopted rib vaults from the Lombards because they also desired economy in the use of centring, and it is thus that Gothic architecture arose. Various details are treated more or less exhaustively in the monograph.

**The Origins of Gothic Vaulting.**—The older vaulting of the abbey-church of Lessay (Manche), which shows the use of ribs, must be dated about 1100. The same is true of the ribbed vaulting of the crossing in St. Trinité at Caen. The result of this dating must be to set the beginning of this system of building into the end of the eleventh century rather than in the middle of the twelfth. The early examples contradict the thesis of Bilson that the ribs at first followed the contour of the old groins and only later became half-circles and the determining factor of the vaulting to which the other arches conformed, for the later type is seen in both the buildings mentioned. Another fact to be noted in the beginnings of Gothic is that the introduction of ribs seems to have been due to the desire to find a safe means of vaulting the nave alone. This is demonstrated by the numerous examples of churches that have ribbed vaulted naves and aisles still covered with groined vaults. The great churches set the fashion and were followed in turn by the smaller foundations. (E. GALL, *Mh. f. Kunstw.* IV, 1911, pp. 300-323.)

**Barbarian Helmets.**—In *M. Soc. Ant. Fr.* LXX, 1910, pp. 104-114 (3 figs.), Baron DE BAYE calls attention to the studies of M. Ebert and A. Götze on the early barbarian helmets of Europe in connection with his own work in that field.

**Proof of Genuineness in Mediaeval Ivories.**—R. KOEHLIN contributes to *B. Soc. Ant. Fr.* 1911, pp. 136-137, the result of investigations concerning two mediaeval ivories, a chalice with the figures of the Liberal Arts (c. 1300) in the treasure of Milan cathedral and the other a Gothic diptych in the Louvre. The first can be traced by catalogues and inventories back to 1440 and thus acquits of suspicion the group of ivories to which it belongs, among others the dated diptychs of the Treasure of Soissons. The other was published by Gori, although the fact has not been recognized, in the *Thesaurus veterum diptychorum* of 1739, a time when a forgery of this character would hardly have been perpetrated.

**Mediaeval Rings.**—In *Proc. Soc. Ant.* XXIII, 1911, pp. 340-344

(4 figs.), O. M. DALTON discusses mediaeval rings with representations of the "Five Wounds of Our Lord." Such rings were at first devotional, but later commemorative. The cult of the Five Wounds became general in the fourteenth century. Prayers were addressed to them in the Books of Hours; and their representation in art followed.

**Italian Armor from Chalcis.** — In *Archaeologia*, LXII, 1911, pp. 381-390 (4 pls.; 10 figs.), C. FFOULKES discusses the mediaeval armor found in the castle at Chalcis in 1840, and now in the Ethnological Museum at Athens. It consists of sixty-three helmets, two cases of body armor, and a case of arrowheads and caltrops. It dates from the middle of the fourteenth to the middle of the fifteenth century. In general the armor is well preserved, and is important to the student of mediaeval arms, as no attempt at restoration has been made.

**Mediaeval Personal Ornaments from Chalcis.** — In *Archaeologia*, LXII, 1911, pp. 391-404 (pl.; 17 figs.), O. M. DALTON discusses the personal ornaments found at Chalcis about the time of the armor (see above) and now in the British and Ashmolean museums. They consist of gold and silver finger- and ear-rings, plaques and rosettes of silver gilt once attached to garments, buckles, tags, and hooks from girdles, and small globular or hemispherical buttons of great variety. They illustrate northern Italian art at the end of the fourteenth and beginning of the fifteenth century; but there are Oriental affinities due to local influence.

#### ITALY

**Duccio di Buoninsegna.** — A recent addition to the series of monographs on the history of art published by Hiersemann is C. H. WEIGELT's elaborate work on Duccio di Buoninsegna. In five chapters he discusses in turn "Franz von Assisi und die italienische Dugentmalerei," "Der Stil Duccios, seine Herkunft und Entwicklung," "Duccio als Erzähler," "Die Madonna Rucellai, ein Werk Duccios," and "Duccios erhaltene Gemälde chronologisch betrachtet"; and adds appendices on "Guido da Siena und seine Schule," "Ikographisches zu Duccios Maesta," and "Verzeichnis der erhaltenen Gemälde Duccios und seiner Schule." Sixty-seven plates illustrating the frescoes complete the work. [*Duccio di Buoninsegna. Studien zur Geschichte der Frühsienesischen Tafelmalerei.* Von CURT H. WEIGELT. Leipzig, 1911, K. W. Hiersemann. 275 pp.; 67 pls. 4to. M. 36.]

**Andrea da Bologna.** — The record of the expenses for the construction of the chapel of S. Caterina in the lower church of S. Francesco at Assisi show that the paintings in it were done in 1368 by Andrea da Bologna. They represent scenes from the life of the saint and afford the most secure basis for reconstructing the *œuvre* of the artist. To him may be assigned, aside from the two signed pictures, the frescoes of the Oratory of S. Lorenzo in the same church of S. Francesco, and the altar-piece of the Coronation of the Virgin in the gallery at Fermo. A document of 1365 in the Bologna archives informs us that an "Andrea de' Bartoli" of Bologna was sent by Cardinal Androino to Pavia to paint in the palace of Galeazzo Visconti. It is likely that this artist is no other than the author of the Assisi frescoes, and that he also did the miniatures of the "Canzone della Virtù e delle scienze," in the Musée Condé at Chantilly, by Bartolomeo

De' Bartoli, probably a relative of his. This hypothesis is more than sustained by a comparison of the Assisi frescoes with the miniatures. (F. FILIPPINI, *Boll. Arte*, V, 1911, pp. 41-62.)

**The Palazzo Bellomo in Syracuse.**—In *Boll. Arte*, V, 1911, pp. 183-196, E. MAUCERI gives a series of views and plans of the recently restored Palazzo Bellomo, Syracuse. The ground floor of the palace dates from the end of the thirteenth century, the upper floor from the fifteenth. Its principal features are a fine open staircase in the court, and the windows, of which one on the ground floor, probably dating from the later enlargement, shows Catalan influence.

**The Great Altar of the Duomo at Arezzo.**—In *Rass. d' Arte*, XI, 1911, pp. 127-140, A. DE VITA studies the sculptures of the great altar of the Duomo at Arezzo and endeavors to distribute the authorship among a number of sculptors. The earlier reliefs of the front comprising the scenes from the life of S. Donato he assigns to the school of Giovanni Pisano. A second cycle of reliefs comprises the Madonna scenes in the upper part of the front of the altar and the scenes of S. Donato on the sides and back, which are to be assigned to the Siennese Agostino di Giovanni and Agnolo di Ventura, and possibly to Giovanni di Agostino. They are, therefore, of the earlier half of the fourteenth century. The upper sculptures of the sides and back belong to the third and last cycle and are due to Giovanni di Francesco and Betto di Francesco da Firenze, of the latter part of the same century.

**The Fourteenth Century Windows of S. Francesco at Assisi.**—The stained glass of the lower church is the subject of an article in *Rass. d' Arte*, XI, 1911, pp. 153-160 and 161-168, by G. CRISTOFANI. Three schools are represented, the Florentine, Siennese, and the local one of Assisi. The windows of the chapels of S. Nicolò and of the Maddalena were done by the same artist who executed those of the Bardi chapel in S. Croce at Florence. The Siennese school, noteworthy for the opaqueness of the colors, is represented by the windows of the chapel of S. Martino and that of the Baptist, while the local work of Giovanni Bonino and his school is found in the chapels of St. Anthony of Padua, of St. Louis, and of St. Catherine. The first two chapels were honored with the work of Bonino himself, the school work being found in the one last named. The article is largely concerned with the interpretation of the iconography.

**Campo Santo Frescoes and the Funeral Liturgy.**—In *Mitt. Kunst-hist. Instit.* 1911, pp. 237-254, H. BROCKHAUS compares the cycles of frescoes in the Chioostro verde at Florence, the Campo Santo at Pisa, and the cemetery of the parish church at Cercina near Florence, and finds that the concept underlying all three is the graphic illustration of the prayers for the dead.

**The Romance of the "Dame de Vergy."**—In the bridal room of the recently restored Palazzo Davizzi-Davanzati is a cycle of frescoes, the subject of which has hitherto eluded investigators. In *Gaz. B.-A.* IV, 1911, pp. 231-242, W. BOMBE has succeeded in identifying the subject with the story of the châtelaine of Vergy. The artist has used an Italian version perhaps by Antonio Pucci, which is preserved in a manuscript of the Riccardiana. The frescoes are Giottesque in character, and possibly by a follower of Orcagna. Another more fully illustrated account of the palace

and its frescoes is contributed by the same writer to *Z. bild. K.* XXII, 1911, pp. 253-263.

**S. Maria Maggiore at Lomello.** — *Arte e Storia*, 1911, pp. 175-181 and 193-205, contains a description of the church of S. Maria Maggiore at Lomello near Pavia by A. K. PORTER. He describes the church as a "masterpiece of Lombard architecture of the first half of the eleventh century," and ascribes it to the year 1025.

#### FRANCE

**The History of a Seal.** — The seal of the Priory of La Charité-sur-Loire, dating from 1270, displays the Virgin seated, with the Child on her knee. Behind her is an angel bearing a globe on which is a cross. A woman kneels before the Virgin. In the field is a dove in flight and in the exergue an eagle and a group of quadrupeds. The inscription reads: EMMANOYHA. This detail and the style shows that the seal is Byzantine of the sixth or seventh century and was adapted by the priory. The seal of 1270 must have been lost, for the later one is a copy in Western style of the old Byzantine seal. (*J. ROMAN, B. Soc. Ant. Fr.* 1911, pp. 139-141.)

**The Palace of the Popes at Avignon.** — In *Arch. Rec.* XXX, 1911, pp. 522-537 (15 figs.), F. LEES publishes a general account of the Palace of the Popes at Avignon, describing briefly the frescoes and the restorations undertaken by the architects Henri Revoil and Henri Nodet. The alterations made since the Revolution are being changed as rapidly as possible and the building restored to its original form.

**Thomas Toustain and the Cathedral of Le Mans.** — In *M. Soc. Ant. Fr.* LXX, 1910, pp. 115-134, H. STEIN argues on the basis of a document dated July, 1258, that Thomas Toustain was one of the architects of the cathedral of Le Mans.

**Romanesque Bases.** — The bases of Romanesque columns may be divided into two classes, the moulded bases and those consisting of a truncated cone or pyramid. The first class derives from the classic and is composed of a scotia between two toruses, one large torus, or a series of toruses. The second class of bases occurs even in Gallo-Roman work and is frequent in the Carolingian period. In the twelfth century a torus is often inserted between the shaft and the conical base. The decoration of the base developed in the second class and in the bases of the first which had a single torus. Rare in the eleventh century, this decoration becomes the rule in the twelfth, and is particularly rich in Burgundy. Spurs occur first in the Carolingian period, are found in the eleventh century, and reach their fullest development in the architecture of Ile-de-France in the twelfth century. (*DESCHOUILLÈRES, B. Soc. Ant. Fr.* 1911, pp. 97-98.)

#### GREAT BRITAIN

**Early Christian Art.** — In *Proc. Soc. Ant.* XXIII, 1911, pp. 325-333 (pl.), W. R. LETHBRIDGE argues that a sarcophagus in the British Museum decorated with Cupid and Psyche at a banquet is really early Christian, and dates from the fourth century A.D. A mosaic from Carthage, on which a hart and a hind appear drinking from four streams is also Christian and probably from a baptism. He compares with the beautiful fourth cen-

tury ivory panel in the South Kensington Museum a marble relief in the Museo delle Terme, from which it may have been copied. He thinks that the carved book cover of the psalter of Melisenda, daughter of Baldwin, is not Byzantine, but French Romanesque, and carved at Angers about 1170. He also argues that Romano-British pavements upon which Orpheus appears are Christian.

**Anglo-Saxon Antiquities from Market Overton.**—In *Archaeologia*, LXII, 1911, pp. 481-490 (5 figs.), V. B. CROWTHER-BEYNON describes the discoveries made in the last few years at Market Overton, Rutland. There were two Anglo-Saxon cemeteries here; but the site is now being worked for ironstone and a scientific examination of it is impossible. The antiquities found are chiefly brooches of different forms. *Ibid.* pp. 491-496 (6 figs.), E. T. LEEDS adds a note on a gold bracteate from this site.

**The First Cathedral Church of Lincoln.**—In *Archaeologia*, LXII, 1911, pp. 543-564 (3 plans), J. BILSON describes the results of the excavations undertaken in recent years for the purpose of determining the plan of the first cathedral church at Lincoln, built by Bishop Remi between 1073 and 1092. It was found to consist of a choir of three bays terminating eastward in an apse and flanked by aisles; a transept, each arm of which consisted of two bays; a nave ten bays in length with north and south aisles; and two western towers at the ends of the aisles with the nave extended an additional bay between them.

**A Viking Sword Pommel.**—In *Proc. Soc. Ant.* XXIII, 1911, pp. 302-307 (4 figs.), R. SMITH discusses a Viking bronze-gilt sword pommel in Norwich Castle, probably found in East Anglia. Its decoration is in sharp contrast to Anglo-Saxon and Irish art and shows dependence on Carolingian models. It dates from the latter part of the ninth century and may have belonged to the sword of a Danish invader.

**A Norman Relief.**—In *Proc. Soc. Ant.* XXIII, 1911, pp. 518-520 (pl.), P. NORMAN calls attention to a Norman relief 14½ in. long by 7½ in. wide from Guy's Hospital, Southwark. It represents "Christ in Majesty," i.e. seated, richly clothed, with his right hand in an attitude of benediction and his left holding an open book which is supported on his left knee. It dates from the twelfth century.

**Carved Heads on the South Doorway of Wotton Church.**—In *Proc. Soc. Ant.* XXIII, 1911, pp. 353-355 (2 figs.), P. M. JOHNSTON conjecturally identifies four of the carved heads on the south doorway of Wotton Church as King John and his Queen Isabella, Pope Innocent III, and Ralph Camoys. The carvings are not later than 1215.

**Exchequer Tallies of the Thirteenth Century.**—In *Archaeologia*, LXII, 1911, pp. 367-380 (4 pls.), H. JENKINSON discusses the thirteenth century exchequer tallies, of which several hundred were found by the Office of Works during recent repairs to the Chapel of the Pyx at Westminster. They are now in the Public Record Office.

## RENAISSANCE ART

### GENERAL AND MISCELLANEOUS

**The Latin Monuments of Chios.**—In *B.S.A.* XVI (session 1909-1910), pp. 137-182 (34 figs.), F. W. HASLUCK describes the Latin monu-

ments of Chios. These date chiefly from the second Genoese occupation (1346-1566), when Chios was governed by a Genoese mercantile company, the shareholders of which took almost always the surname and coat-of-arms of the Giustiniani. The monuments, apart from the walls, consist chiefly of inscriptions and reliefs of heraldic or religious character. They are of little artistic interest, on the whole, and their quality is Genoese, not local. An appendix (pp. 183 f.) contains Thevet's description of Chios written shortly after the Turkish conquest in 1566.

**Portraits of Erasmus.**—Metsys, Dürer, and Holbein each made portraits of the great humanist, and to the former there is attributed in addition a small medallion likeness, dated 1519. The correspondence of Erasmus and More shows that the former sent to the Englishman a portrait of himself and of Aegidius (Pierre Gilles, secretary of Antwerp), painted by Quentin Metsys. The original panel was sawed in two, and the Aegidius, though often mistaken for the portrait of Erasmus himself, is now to be found in the collection of Lord Radnor at Longford Castle. There are many replicas of the Erasmus, the original of which is probably the picture in the Stroganoff collection at Rome. The Dürer copper plate is a highly idealized affair, inspired by a sketch made from life at Antwerp, but finished six years later. Holbein's first portrait of Erasmus is found on the margin of a copy of the *Praise of Folly*, in the Basel Museum. He painted him again in 1523, both alone and with Froben, and for the last time in 1528. (A. MACHIELS, *Gaz. B.-A.* IV, 1911, pp. 349-361.) The Stroganoff picture was recently presented by the heirs of Count Stroganoff to the Galleria Nazionale in Palazzo Corsini. (*Boll. Arte*, V, 1911, pp. 323-324.)

**Joseph in Prison.**—In *R. Arch.* XVIII, 1911, pp. 297-300 (fig.), HERMANN NORSE makes known a small painting in the collection of Professor Baron v. Bissing in Munich. It represents the interpretation by Joseph of the visions of the chief butler and the chief baker (Genesis xl), and is a replica (not quite exact) of the picture belonging to M. Aynard of Lyons (Exposition des Primitifs Français, 1904, *Catalogue*, No. 89. "École de Picardie vers 1480. Le songe du grand echanson"). In a picture in the Musée Condé at Chantilly (*Catalogue*, "Écoles étrangères," p. 198), formerly attributed to D. Bouts and then to the French school about 1480, is a figure of a prince which much resembles this Joseph.

#### ITALY

**The Codex Berolinensis.**—The collection of drawings of antique monuments known as the *Codex Berolinensis*, has usually been ascribed to Girolamo Ferrari. Its drawings fall into two groups, the former evidently earlier and showing the earlier style of the draughtsman, the other later. Similar drawings in the Uffizi belong to the same collection, which proves to be the work of Giovanantonio Dosio, and was made between 1561 and 1565. Shortly before 1569 he made a revision of the collection, probably with a view to publication, and at that time introduced several drawings from other sources, and put in the notes that appear upon the folios to-day. Much of the collection is obviously lost; the architectural portion has found its way into the Uffizi, while the drawings of sculpture are found in the Codex in the Kupferstichkabinett in Berlin. (P. G. HUEBNER, *Ma. f. Kunstw.* IV, 1911, pp. 353-367.)



**Archival Researches.**—The Beiheft of the *Jb. Preuss. Kunsts.* XXXII, 1911, is devoted to a series of discussions based on Italian archives. DETLEV FR. V. HADELN treats the decoration of the Ducal palace in Venice with special reference to the rooms of the Ten, the Sala delle Quattro Porte, and the Anticollégio and Collegio (pp. 1–33). Documents from the Archivio di Stato at Florence provide the basis of H. GEISENHEIMER's article on the negotiations of the Medici for Flemish and Dutch pictures in the latter half of the seventeenth century (pp. 34–61). G. GRONAU contributes a series of documents in the National Library at Florence, bearing on the construction and decoration of the New Sacristy and the Library of San Lorenzo (pp. 62–81).

**New Data on Bartolomeo Vivarini.**—In *Burl. Mag.* XIX, 1911, pp. 192–198, T. BORENIUS publishes an account of three pictures of Bartolomeo Vivarini, the first of which, belonging to Sir Hugh Lane, bears the date 1448 with the added information that the artist painted the picture at the age of sixteen. It follows that he was born in 1431 or 1432, and that this is his earliest dated work. It is a rather stiff work, representing the Madonna adoring the Child, and betrays considerable Paduan influence. The other pictures discussed are an Adoration of the Magi in the possession of Mr. J. P. Morgan, and the Death of the Virgin, late of the Charles Butler collection.

**Raphael's "Young Cardinal."**—By comparison with a medallion portrait by Caradosso, H. HYMANs concludes that the original of Raphael's "Portrait of a Young Cardinal" in the Prado at Madrid is Scaramuccia Trivulzio, bishop of Como at the time that the picture was painted, which must have been between 1517 and 1520. (*Burl. Mag.* XX, 1911, pp. 88–90.)

**A Portrait of Michelangelo by Raphael.**—The second head from the right (Fig. 7) in the group surrounding the Pope in Raphael's fresco of the "Delivery of the Decretals" in the Stanza della Segnatura is held by W. ROLFS to be a portrait of Michelangelo at the age of thirty-six (*Z. bild. K.* XXII, 1911, pp. 206–214). The group is evidently made up, in part at least, of contemporary portraits. The Pope is Julius II, and the two cardinals holding his robe are Giovanni de' Medici and Alessandro Farnese. There is no reason to suppose a rivalry between the two artists in Michelangelo's younger days that would have prevented such a courtesy on the part of the younger painter, and the head agrees with the earlier portrait of Michelangelo, so far as it can be reconstructed from extant sources.

**Raphael's Source for the Architecture of the "School of Athens."**—In the *Mitt. Kunsthist. Instit.* 1911, pp. 229–236, C. HUELSEN discusses Raphael's source for the architecture of the "School of Athens." He scouts the idea that the painter borrowed his architectural design from Bramante, but regards it as likely that he imitated, in the general composition, Ghiberti's "Reception of the Queen of Sheba," on the east door of the baptistery at Florence. For his actual details he seems to have made use of the Janus Quadrifrons in the Forum Boarium at Rome, and the base moulding of his palace is reminiscent of that of the Arch of Trajan at Beneventum.

**The Architect of the Palazzo Sacchetti.**—The Palazzo Sacchetti in Via Giulia is ordinarily assigned to Antonio Sangallo the younger, chiefly on the ground of a passage in Vasari and the inscription under a window of the first floor: DOMS · ANTONII · SANGALLI · MDXLIH.



D. GNOLI, however, in *Boll. Arte*, V, 1911, pp. 201-206, brings documentary proof to show that the inscription and the statement of Vasari refer to a smaller edifice constructed by the architect for his own use, which was afterward bought with other adjoining houses and replaced by the present palace which was erected for Cardinal Ricci da Montepulciano some time

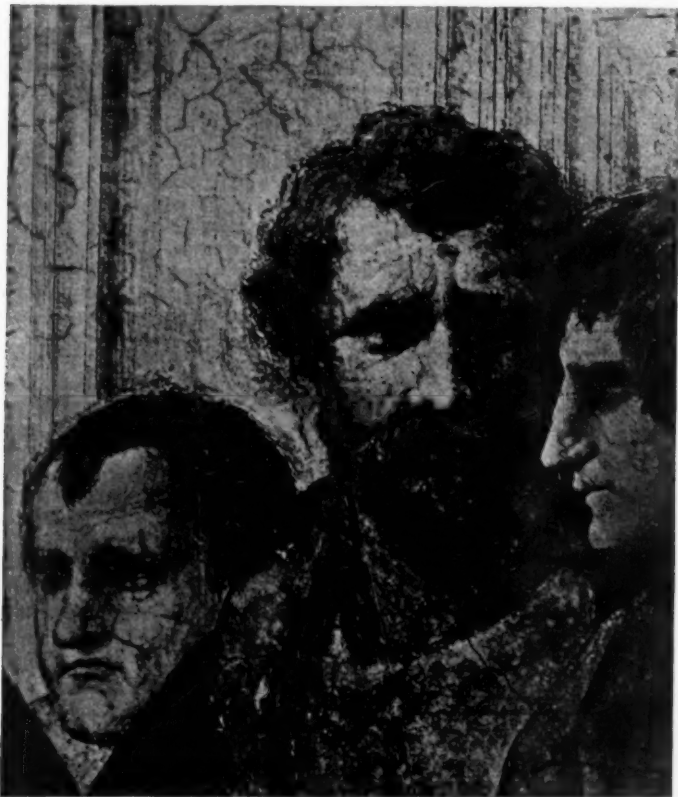


FIGURE 7.—PORTRAIT OF MICHELANGELO BY RAPHAEL.

before 1557. The architect was, in all probability, Annibale Lippi, who built the Villa Medici, on the Pincian. The details of the façade of the latter building show much resemblance to those of the Palazzo Sacchetti, save in its lowest story, which was probably transformed under the Medici. The inscription on the Palazzo Sacchetti was retained after the incorporation of Sangallo's house into the larger palace.

**Notes on Giambono.**—Giambono's masterpiece, the altar-piece representing St. James the Great with various saints, in the Accademia at Venice, has suffered a transposition of panels on the left side. The figures of St. John and the monk should change places, whereby the composition of the painting is greatly improved. The monk is not a saint, and is probably to be identified with Philip Benizi of the Servite Order. Berenson's Giambono does not represent St. Michael, but more probably one of the "Thrones," the highest of the heavenly hierarchies. (G. McN. RUSHFORTH, *Burl. Mag.* XX, 1911, pp. 100-107.) In *Rass. d' Arte*, XI, 1911, pp. 93-94, L. TESTI points out that the contract for the altar-piece for the church of S. Michele in the village of S. Daniele in Friuli shows that the execution of the piece was intrusted to Paolo di Amadeo as sculptor and to Giambono as painter, and that there is every reason to suppose that the altar meant is the one still existing in the church of S. Antonio, to which it was transported from its former location toward the middle of the eighteenth century. This is a polychrome sculptured altar-piece and, therefore, the Berenson picture, hitherto supposed to be a portion of this altar, can have no relation to it. He also maintains that the Pietà in the Museo Civico at Padua, which is there assigned to Giambono, is only a poor copy after the original in the Metropolitan Museum in New York.

**Juliano Florentino, a Fellow-worker of Ghiberti, in Valencia.**—In *Abh. Sächs. Ges.* XXIX No. III, 1911 (41 pp.; 13 pls.; 2 figs.), AUGUST SCHMARSOW discusses the twelve alabaster panels in the wall of the choir (trascoro) of the cathedral at Valencia. They represent in relief six scenes from the Old Testament and six from the New Testament. The archives prove them to be the work of a Juliano, and fix their dates between 1415 and 1424. The artist appears to be Juliano di Giovanni da Poggibonsi, mentioned in a contract dated June 1, 1407, as working with Ghiberti on the first bronze doors of the baptistery at Florence. His style seems to be influenced by Lorenzo Monaco. His works are interesting examples of Florentine picturesque sculpture in the early part of the fifteenth century.

**The Date of the Death of Fiorenzo di Lorenzo.**—A. BRIGANTI contributes to *Rass. d' Arte Umbra* (1911, pp. 83-86) a documentary study from which he concludes that this artist died in the early days of February, 1522.

**Federigo Barocci's Drawings.**—In *Abh. Sächs. Ges.* XXIX, No. II, 1911 (32 pp.; 7 pls.), AUGUST SCHMARSOW continues his critical study of Federigo Barocci (see *A.J.A.* XIV, 1910, p. 256; XV, 1911, p. 588) with a description and discussion of the drawings in the public collections in western Europe.

**A Monument by an Unknown Sculptor.**—In *Rass. d' Arte*, XI, 1911, pp. 175-176, L. OZZOLA publishes a reproduction of the altar of the cathedral at Piacenza which is signed: AMBROSII · MONTEVECCHI · MEDIO-LANENSIS · OPVS. He is inclined to identify this sculptor with the "Ambrosius de Montevegia lapicida" whose name occurs from 1476 to 1509 in the accounts of the Fabbrica del Duomo at Milan. It is also possible that the name "Ambrosius de Montenegro" which occurs in the accounts in 1507 and 1518 is a copyist's mistake for the same name. The Piacenza relief represents the crucifixion with Mary and John. Walled into the frame of the altar is a striking portrait of the donor, Bishop Bagaroto, by the same artist.

**Venetian Enamelled Glasses of the XV and XVI Centuries.**—A discussion of Venetian enamelled glass of the fifteenth and sixteenth centuries appears in *Jb. Preuss. Kunsts.* XXXII, 1911, pp. 249-286, under the name of R. SCHMIDT. After showing that the ordinary attribution of the invention of this process to Beroviero is entirely ungrounded, the writer takes up the evolution of form and color in these vases and their classification, viz. vases with rich figured decoration, vases decorated with busts (among which he cites a milk-glass cup in the collection of Baron Maurice de Rothschild in Paris which displays a female bust evidently copied from a figure in the "Courtesans" of Carpaccio in the Museo Civico at Venice), vases with grotesques or medallions, etc., and vases designed for export, particularly to Germany.

#### SPAIN AND PORTUGAL

**Andrés de Nájera.**—P. LAFOND contributes to *Burl. Mag.* XX, 1911, pp. 133-139, a critique of the principal works of Andrés de Nájera, the choir-stalls of S. Domingo de la Calzada and those of S. Benito el Real, now in the museum of Valladolid. The years of the artist's greatest activity were 1517-1526.

**A Picture of El Greco Explained.**—A painting by El Greco in the possession of Don Ignacio Zuloaga has hitherto borne the title "Earthly Love." It is instead a rendering of the "Opening of the Fifth Seal," based on Rev. 6:9 ff. The identification is certified by the fact that Dürer has a woodcut with a similar scene, on which the verses from the Apocalypse are inscribed. The sole difference is that the altar which appears in Dürer's cut is omitted in the picture. (H. KEHRER, *Mh. f. Kunstw.* IV, 1911, pp. 324-325.)

**Paintings by the Master of S. Bento.**—The master of S. Bento, who derives his title from the paintings in the cloister of S. Bento in Lisbon, was the author of a series of four paintings of uncertain subjects which formerly decorated the altar in the monastery church of Madre de Deus in Xabregas, near Lisbon. The first picture represents a female saint standing on the sea-shore, apparently assisting at a translation of relics. In *Z. bild. K.* XXIII, 1911, pp. 13-21, A. HAUPT believes that the saint is Queen Leonora of Portugal, the founder of the cloister, but does not explain the nimbus and palm which appear as attributes of the figure. Justi relates this scene as well as the next, which is somewhat similar, to the Ursula legend. The third picture represents a marriage, possibly that of John III with Catherine of Spain. The fourth scene depicts the bestowal of the Papal blessing on the newly married pair. The series is the masterpiece of this nameless Portuguese painter of the early sixteenth century.

#### FRANCE

**A Madonna by Bernini in Notre Dame.**—The Virgin and Child which lies unnoticed in the corner of a chapel in Notre Dame, Paris, is proved by M. REYMOND in *Gaz. B.-A.* IV, 1911, pp. 299-313, to be a documented work by Bernini. It was bought of the artist for the church of the Carmelites at Paris by the Cardinal Barberini, and the altar which formerly contained it in that church bears a close resemblance to that of the "Ecstasy of Santa Teresa" in S. Maria della Vittoria at Rome. The statue was re-

moved to the cathedral as a consequence of the troubles of the Revolution. It was executed after the master's sketches by Antonio Raggi.

**A Provençal Painter of about 1500.**—A St. Michael from Avignon exhibited in the Exposition des Primitifs français of 1904 excited considerable attention as an obvious production of the Provençal school of about 1500. The Annunciation on the back of the panel showed a great deal of Italian influence, and the same characteristic is betrayed by a "Sposalizio" in the museum at Brussels and lastly by a Deposition of St. Sebastian in the Johnson collection in Philadelphia. We have here to do with a painter of the south of France in close relation with the Italian schools of the early sixteenth century, especially those of Venice and Lombardy, the influence of Gaudenzio Ferrari being particularly visible. (H. Voss, *Mh. f. Kunstw.* IV, 1911, pp. 414-415.)

**Pierre Bontemps.**—In *M. Soc. Ant. Fr.* LXX, 1910, pp. 265-371 (4 pls.), M. Roy traces the career of the sixteenth century sculptor, Pierre Bontemps. He was born between 1505 and 1510, is first heard of at Fontainebleau in 1536, and died between 1567 and 1570. The writer publishes forty-eight documents relating to him.

**The Tomb of Louis de Poncher.**—In *M. Soc. Ant. Fr.* LXX, 1910, pp. 231-264, A. REY traces the history of the tomb of Louis de Poncher, two figures from which, representing Faith and Hope, are preserved in the Louvre. It was carved by Jacques Bachot in 1507.

**"Marcus" on Limoges Enamels.**—The name "Marcus" occurs on several Limoges enamels of c. 1500, and is particularly associated with one of the executioners at the Crucifixion. In the mystery which bears the name of the "Passion de Semur" the name is given to Pilate's servant, who is identified with the Malchus of John, 18:10. Malchus in turn occurs in some of the mysteries as one of the executioners of the Flagellation. The name in the enamel is, therefore, probably a reminiscence of the passion-plays of the fifteenth century. (J. J. MARQUET DE VASSELLOT, *B. Soc. Ant. Fr.* 1911, pp. 125-127.)

#### BELGIUM AND HOLLAND

**Jacques Daret and the Maître de Flémalle.**—In *Burl. Mag.* XIX, 1911, pp. 218-225, G. H. DE LOO announces the discovery of the missing panel of the altar-piece which Daret painted for the church of St. Vaast at Arras. He identifies it with a Nativity in the possession of the Messrs. Colnaghi in London. The work shows a remarkable resemblance with the painting of the same subject by the "Maître de Flémalle" in the museum of Dijon and reinforces De Loo's contention that the latter is identical with Jacques Daret's master, Robert Campin.

**Portraits by Antonius Palamedesz.**—In *Mh. f. Kunstw.* IV, 1911, pp. 293-295, H. BURG publishes a portrait, in the possession of J. Boehler in Munich, which is the work of Antonius Palamedesz. The sitter is evidently the brother of the painter, who also forms the subject of a well-known painting by Van Dyck in the Old Gallery in Munich. The painting shows the change of style which the art of Antonius experienced under the influence of Van Dyck, his earlier manner, related to Franz Hals, being illustrated by the portrait of a girl in the Kaiser-Friedrich Museum at Berlin. The new portrait, therefore, belongs to his middle period, as also the portrait of

a youth in Berlin, while the "Gentleman and his Wife" in the Walraff-Richartz Museum in Köln are products of his latest days.

**Joachim Bueckeleer.** — *Jb. Preuss. Kunsts.* XXXII, 1911, pp. 185-212, contains a monograph on Joachim Bueckeleer by J. SIEVERS. He sketches the life of the painter, who was a faithful follower of the style of his master, Pieter Aertsen, to which circumstance he doubtless owed much of his ill-success with the public. His favorite subject was still-life, and this is, indeed, the dominant note even in his figured scenes. He scarcely ever attempted any other kind of picture, one exception being the Rustic Festival at St. Petersburg wherein, however, he has merely imitated Aertsen's portrayal of the same subject in the Dansette collection in Brussels. His hands are superior to those of his master, who paints them weak and apparently incapable of grasping. On the other hand, his faces are conventionally treated, and invariably gaze outward from the picture. His compositions are often bound together by the simple means of depicting one figure in the embrace of another without apparent reason, a failing that is absent in Aertsen's work. His color-harmonies are measurably superior to those of his master. A chronological catalogue of the painter's works completes the article.

#### GERMANY

**Johannes Sapiensis.** — The name Johannes Sapiensis occurs in several documents of the archives of Turin which contain the accounts of works made for Amedeo VIII of Savoy. He may be identical with, or to be distinguished from, the "Jean Bapteur" who figures in the accounts of the House of Savoy from 1427 to 1437. It is quite likely, at any rate, that his name is a Latinization of that of Hans Witz, the father of Conrad Witz. It is possible that certain pictures in the museum at Chambéry may be attributed to him. (C. DE MANDACH, *Gaz. B.-A.* IV, 1911, pp. 405-422.)

**Notes on Dürer.** — The drawing of St. Catherine in the National Gallery of Ireland at Dublin is from Dürer's own hand and formed the model for the figure in the wing of the Tucher triptych as carried out by Kulmbach. The "Madonna auf der Rasenbank," a pen drawing in the British Museum, is certainly a work of the artist, as is also the Head of an Old Man in the same collection. The St. John in the woodcut, Christ on the Cross, of 1510, is a copy of an earlier figure by the master, the St. John of the canon-picture in a "Missale Speciale" of 1493. (C. DODGSON, *Burl. Mag.* XX, 1911, pp. 90-96.)

**The Sebastiansaltar in the Old Gallery at Munich.** — In an exhaustive study of the Sebastiansaltar in the Old Gallery at Munich contributed to *Rep. f. K.* XXXIV, 1911, pp. 255-264, A. HUPPERTZ shows that the workmanship of the piece portrays a unity of conception and treatment which precludes the assumption of more than one hand, and that the details point to the authorship of Hans Holbein the Elder. The wings, also, which have sometimes been considered an early work of the younger Holbein, must be given to the older master.

**The Holzhausen Collection in the Stadel Institute.** — A collection, consisting chiefly of ancestral portraits, has recently been loaned to the Stadel Institute by Freiherr Adolf von Holzhausen, and forms an almost complete illustrative series for Frankfort portrait painting considered his-

torically. F. RIEFFEL, discussing the collection in *Mh. f. Kunstw.* IV, 1911, pp. 341-352, assigns the earliest of the portraits, a work strongly suggestive of Dürer, to the Master of the "Mainzer Dreikönigsaltar." The Master X is the author of four portraits, one of them signed. The rest of the collection, of later date, offers little difficulty or interest in attribution.

**Notes on German Woodcuts.**—H. KOEGLER contributes to *Mh. f. Kunstw.* IV, 1911, pp. 389-408, a series of notes on Holbein's woodcuts supplementary to his own and Schmid's work in this field. A number of new wood and metal engravings are noted. The article closes with a résumé of the work of the Master C. S., who, Koegler suggests, may be identified with Conrat Schuitt of Constanz.

**Woodcut Portraits of the Emperor Maximilian.**—Four woodcuts representing the Emperor Maximilian are based on Dürer's drawing of 1518 in the Albertina at Vienna. The most remarkable is the fourth, which is an example of the gold-print process, and is to be assigned to Jost de Negker of Augsburg. The third is also an Augsburg work, while the first was probably done under Dürer's own direction by Springinklee at Nürnberg. (M. GEISBERG, *Jb. Preuss. Kunsts.* XXXII, 1911, pp. 236-248.)

**Early Paintings of the Frankfort School.**—In *Rep. f. K.* XXXIV, 1911, pp. 333-350, K. SIMON notes the points of similarity in four pictures in Frankfurt: a St. Anne, Madonna and Saints, in the Liebfrauenkirche; a Man of Sorrows, with Mary and John, in the Deutsch-Ordenskirche; a Crucifixion in the Stadel Institute, and another in the Weissfrauenkirche. The first two have the further peculiarity that a prominent feature in the background decoration is a violetlike flower which the author suggests is used as a signature by the painter whom he identifies with Conrad Fyol (d. c. 1500). "Veilchen," violet, is in old German, "fiol." The article contains, further, a summary of the characteristics of old Frankfort painting. The last three pictures of Simon's group are recognized as being of common authorship by C. GEBHARDT in *Mh. f. Kunstw.* IV, 1911, pp. 416-418. He does not, however, attempt to identify the painter.

**The Model for the Tomb of Herzog Ludwig Der Gebartete.**—By comparison of the stone model for the tomb of Herzog Ludwig der Gebartete in the Bayrisches National Museum in Munich with Hans Multscher's Kargaltar in the cathedral at Ulm and the sculptures of the Ulmer Rathaus, K. F. LEONHARDT arrives at the conclusion that the model was the work of that sculptor and was executed in 1435. (*Mh. f. Kunstw.* IV, 1911, pp. 513-515.)

**The Augsburg "Costume Ball."**—The original of the picture known as the Augsburg "Costume Ball" is an aquarelle in the Augsburg museum, but a better preserved copy is in the Kupferstichkabinett at Berlin. The picture represents a dance organized in 1522 by Mattheus Schwartz of Augsburg, in which the costumes of the periods from 1200 to his own day were worn by the dancers. The characters are many of them contemporary portraits and labelled with names. The painter is a skilful miniaturist, Narziss Renner, who also decorated the prayer book of the same Mattheus Schwartz, preserved in the monastery of Schlägl in Upper Austria. His affinities are rather with the "Donaustil" of Altdorfer, etc., than with the local art. The picture had considerable effect on similar subsequent representations. (G. HABICH, *Jb. Preuss. Kunsts.* XXXII, 1911, pp. 213-235.)



**Influence of the Netherlands on German Art of the Sixteenth Century.**—In *Z. bild. K.* XXII, 1911, pp. 233-238, B. HAENDCKE reviews the art of Germany in the latter half of the fifteenth and the first half of the sixteenth century, and concludes that the guiding influence was Flemish rather than Italian, except for about twenty years (1520-1540), when Italian fashions were predominant in Germany. The reason for the general leaning toward the Netherlands is in his opinion the difficulty experienced by German artists in mastering the Italian language and sympathizing with the fresco technique. The conscious desire of the German artist was a better understanding of color and other purely pictorial qualities, and in this field the Netherlands could teach him quite as much as Italy.

#### GREAT BRITAIN

**A Carved Oak Chest.**—In *Proc. Soc. Ant.* XXIII, 1911, pp. 415-425 (pl.), E. P. WARREN publishes an oak chest, probably an aumbry belonging to St. Sannan's church, Bedwellty, Monmouthshire. It is of late fifteenth century date. On one end the upper panel represents the Five Wounds, and the lower the three nails upon a shield surrounded by a wreath. The four panels on the front have an elaborate tracery design. The writer also describes briefly the church.

**A Carved Reliquary Case.**—In *Proc. Soc. Ant.* XXIII, 1911, pp. 355-358 (8 figs.), H. C. SMITH publishes a carved pear-wood reliquary case dating from about 1500 in private possession in Loddon, Norfolk. On the front James and John are seen standing on either side of a conventional flower. Other flowers appear on the back and sides. The writer regards it as English work.

**Lead Panels.**—In *Proc. Soc. Ant.* XXIII, 1911, pp. 360-369 (5 figs.), H. BREAKSPEAR discusses a number of ornamental lead panels from Bardney Abbey, Lincolnshire. They date from the fifteenth century, and were used for ornament against a background of wood or other material.

#### AMERICAN ARCHAEOLOGY

##### GENERAL AND MISCELLANEOUS

**Primitive Industries.**—In a brief discussion of primitive ways of working stone in *Southern Workman*, XL, 1911, pp. 88-93 (19 figs.), H. I. SMITH treats of fracturing (chipping and flaking), battering or pecking, grinding and incising (picking, cutting, drilling, etc.). *Ibid.* pp. 143-154 (7 figs.), the same writer treats of the development of pottery in various parts of America, processes of manufacture, —Zuñi pottery, Peruvian "whistling jars," mound-builders' vessels of animal and human forms, pipes, Mexican funeral urns, Pueblo vessels, etc. *Ibid.* pp. 209-218 (6 figs.), he treats briefly of Eskimo use of meteoric iron, pre-Columbian copper working, Argentine prehistoric bronze, use of gold and silver, modern Haida, Navaho, and Iroquois silversmiths. *Ibid.* pp. 515-520 (5 figs.), he discusses briefly tanning, skin-dressing, ornamentation, uses, etc., among the Eskimo, Modoc, Plains Indians, Ojibwa, etc.

**Dances and Music of the Eskimos.**—In *Z. Ethn.* XLIII, 1911, pp. 261-270 (5 figs.), C. LEDEN discusses the dances and music of the Greenland



Eskimos, and compares Indian music with this. He reproduces, as well as is possible in our notation, five Eskimo and three Indian songs.

#### UNITED STATES

**Tlingit Pipe.**—In his article treating of the native account of the meeting between La Pérouse and the Tlingit Indians in 1786, in *Am. Anthr.* N.S. XIII, 1911, pp. 294-298 (fig.), Lieutenant G. T. EMMONS describes and figures "a carved modern pipe of splendid proportions," which illustrates the myth of Lituya, commemorating the meeting of the Indians and La Pérouse, the French navigator. This pipe, now in the collection of G. G. Heye, was obtained in 1888 from the chief of the Tucktaneton family of the Hoonahkwow.

**Snake Dance near Oraibi.**—In *Nat. Geogr. Mag.* XXII, 1911, pp. 107-137 (31 figs.), MARION L. OLIVER describes, from personal observation, the snake dance as performed at Hotavila, near Oraibi. Many of the illustrations are of archaeological interest.

**Stone Implements in the Champlain Valley.**—In *Am. Anthr.* N.S. XIII, 1911, pp. 239-249 (6 pls.), G. H. PERKINS publishes a second paper on the aboriginal remains in the Champlain Valley. Grooved axes in great variety of form and size, and of all degrees of elegance, problematical objects (pierced tablets, winged stones, pick-shaped stones, boat-shaped stones, bar amulets, bird stones, pendants, plummets, discoidal stones), pipes, etc., are described and figured. Some of the problematical forms, at least, "had their origin outside of New England," and "either the objects themselves were imported from farthest west, or those made elsewhere were imitated by the Indians of the Champlain Valley."

**Art of Penobscot Indians.**—In *Museum Journal*, University of Pennsylvania, II, 1911, pp. 21-26 (5 figs.), F. G. SPECK gives an account of a visit to the Penobscot Indians, early in 1911. Among the Penobscot specimens in the Heye collection are a wampum necklace and a carved cradle board, both of which are figured.

**A Petroglyph in Wrentham.**—In *Am. Anthr.* N.S. XIII, 1911, pp. 65-67 (pl.; fig.), H. H. WILDER describes an inscribed boulder, the figures on which are, some of them, not unlike certain parts of the Dighton inscription, and also bear "a striking general resemblance to certain well-known petroglyphs, especially the one on Bald Friar Rock, Maryland." This stone was originally found at West Wrentham, some thirty miles from the Dighton Rock, and about as far also from Swansea, in Bristol County, at which place another of the few petroglyphs reported from Massachusetts was discovered. The Wrentham stone, which was discovered about sixty years ago, was carried by its finder to his home in Cumberland, R.I., and, during the last thirty years, it served as part of a back doorstep. All possibility of fraud, Mr. Wilder assures us, is excluded, and we may count this as a genuine relic of the Algonkian aborigines of the country. The place where it was first found was "in West Wrentham, in the edge of Norfolk County, at a rough and picturesque spot known as 'Joe's Rock,' popularly associated with stories of the Indians, and still remembered as the home of the last local native, called 'Joe.'" The stone is "a small, oblong boulder of trap, its longest dimension being about ten inches, and its weight slightly under

thirty pounds." The inscription, counting the worn surface, runs around the entire stone.

**Archaeological Forgeries in Michigan.**—In *Am. Ant.* XXXIII, 1911, pp. 26-29, F. W. KELSEY again calls attention to certain archaeological forgeries from Michigan. These consisted at first, chiefly of caskets and tablets of clay (including one of the Deluge), with cuneiform and Egyptian inscriptions, etc. Subsequently copper tablets appeared. These spurious objects were described in 1908, in the *American Anthropologist*. An unsigned article, *Am. Ant.* pp. 12-25, under the heading 'Michigan, the Storm-Center of American Archaeology,' discusses the finds by Dean Savage and D. E. Soper of "prehistoric" copper, stone, and clay relics in Michigan, the genuineness of which has been doubted. The Savage-Soper discoveries are also discussed by J. A. RUSSELL in connection with the explorations of mounds in Wayne County, Mich., *ibid.* pp. 135-145. Finally, F. STARR, J. O. KINNAMAN, and J. E. TALMAGE prove (*ibid.* pp. 160-164) the fraudulent character of the tablets and other objects of clay, slate, and copper; but Messrs. Savage, Soper, and Russell are acquitted of all share in the "plants" by which they were deceived. Here appears to have been a "deliberate scheme of deception and fraud," the parties to which can probably be discovered and identified.

**The Kensington Rune Stone.**—In *Rec. Past*, X, 1911, pp. 33-40 (2 maps), is published a Preliminary Report to the Minnesota Historical Society, on the Kensington rune stone. The report is to the effect that, provided a competent Scandinavian expert in language verify the inscription, the committee would render a favorable opinion as to the authenticity of the stone. Professor G. Bohue, the expert selected, made an unfavorable report, and suggested examination by expert runologists in Norway. *Ibid.* pp. 260-271 (4 figs.), H. R. HOLAND gives the results of his inquiries among the runologists and Scandinavian philologists of Europe, as to the Kensington stone, and replies to their objections (particularly those of M. Haegstad, who declared it a forgery). According to Mr. Holand, Professor G. T. Flom's assertion that the maker of the inscription was a Dalecarlian, judging from the runes, is not proved.

**A Rare Flint.**—In *Am. Anthr.* N.S. XIII, 1911, pp. 172-173 (fig.), W. C. BARNARD describes a "ceremonial knife" found about 1891, near Elsberry, Lincoln County, Mo., having been ploughed up in a cornfield. This implement, which is of extreme thinness, "is a masterpiece of the ancient flint-worker's art, and fascinates the eye by its graceful outline, beautiful color, and magnificent workmanship."

**An Unexploited Culture.**—In *Rec. Past*, X, 1911, pp. 249-259 (14 figs.), R. F. GILDER writes of "discoveries indicating an unexploited culture in eastern Nebraska." The house-runs in question, with which are associated numerous tumuli, are not arranged in village-groups, but seem to be "scattered at random." They are quite numerous, — two hundred in eastern Douglas County, two hundred in Sarpy County, and five hundred in Washington County. Among the objects found in these ruins are: Pottery pipes "of hitherto unknown designs," and pipes of soapstone, pots and bowls of a dozen kinds, shell spoons and pendants (also a gorget), clay beads, stone knives and arrows, implements of bone and horn (comb, needles, shuttles, fishhooks, arrow-straighteners, etc.). On one of the pot-

tery-shards is "a good drawing of a turkey." Some of the antler objects are thought by Mr. Gilder to be phalli (terra-cotta phalli were found in one ruin). Interesting also is a carved human head of pink soapstone. The opinion is expressed that some of the objects here discovered show "a decided southern—Mexican or Central American—influence, their range being probably greater than that of any other culture north of Mexico." But this remains to be proved.

**Nebraska "Loess Man."**—In *Rec. Past*, X, 1911, pp. 157-169 (10 figs.), R. F. GILDER discusses and criticises "inaccuracies" in the report on the "loess man" of Long's Hill, near Florence, Neb., in his monograph (*B. A. E. Bull.* No. 33) on 'Skeletal Remains,' suggesting or attributed to early man in North America. Dr. Hrdlička finds no reason to believe in "a more than moderate antiquity for the Gilder mound specimens." The report of B. Shimck (*Bull. Geol. Soc. Amer.* Vol. XIX, 1908) on the Nebraska "loess man" is also criticised. Mr. Gilder is satisfied that "the bones were found in the undisturbed loess formation."

**Glacial Man at Trenton.**—In *Rec. Past*, X, 1911, pp. 273-282 (5 figs.), G. F. WRIGHT reviews and discusses E. Volk's monograph (*Peabody Mus. Pap.* Vol. V) on *The Archaeology of the Delaware Valley*, which embodies the results of twenty years' painstaking and laborious investigation. Mr. Wright is of opinion that "these investigations amply sustained the early contention of C. C. Abbott that there was a sharp line of demarcation between the earlier occupation of the Delaware Valley when argillite only was used for implements and its occupation by Indian tribes who had discovered flint and jasper and made use of pottery." Also that glacial man is proved for the Trenton region,—the human femur, found in place "in an unquestioned deposit of glacial gravel," December 1, 1899, is held to be of great significance. *Ibid.* p. 297 (2 figs.), the discovery in the Trenton "yellow drift" of two argillite implements of palaeolithic form is reported.

**Pottery-making at San Ildefonso.**—In *Am. Mus. J.* XI, 1911, pp. 192-196 (10 figs.), H. J. SPINDEN treats of the making of pottery and its decorative designs among the Pueblo Indians of San Ildefonso, on the east bank of the Rio Grande, about twenty miles northwest of Santa Fe. This pueblo "is famous for water jars and large storage vessels with conventionalized designs in red and black upon a cream-colored base," but "red base pottery with designs in black, polished black pottery, and rough cooking ware are also made." The Indians "have a keen appreciation of nature which shows in every feature of their decorative art."

**Iroquois Silver-smithing.**—In *Am. Anthr.* N.S. XIII, 1911, pp. 283-293 (5 figs.), A. C. PARKER adds to the evidence already furnished of the European origin of the heart-shaped silver brooches, which continued to be fashioned by the Iroquois as late as 1865. The simple and the more complicated form of Iroquois silver brooches of the Masonic motif are figured and described.

**The Pompey Stone.**—In *Am. Ant.* XXXIII, 1911, pp. 7-11 (fig.), W. M. BEAUCHAMP shows that the celebrated Pompey stone (with date 1520), said to have been found in 1820 at the town of Pompey, N.Y., was a joke or a fraud, the two perpetrators of it now having been discovered.

**Specimens lost in Capitol Fire.**—In *Am. Anthr.* N.S. XIII, 1911, pp. 167-169, A. C. PARKER states that in the conflagration of March 29,

1910, "the archaeological and ethnological collections of the State Museum (New) York were almost totally destroyed by fire and water." The Converse collection of silver articles was rescued; but the famous Morgan collection of old Iroquois textiles and decorated fabrics were among the first to be destroyed by the flames, — the Parker collection of rare objects and the Morgan ethnological collection, except some fifty specimens, were also lost. The Iroquois wampum belts were saved, and, curiously enough, "hardly a single object connected with the ceremonies of the Iroquois totemic cults or the religious rites was injured." Not even a hair of the medicine masks was singed.

**Iroquois Wampum Belts.** — In *Museum Journal*, University of Pennsylvania, III, 1911, pp. 26-27 (fig.), F. G. SPECK describes briefly a wampum belt obtained from the wife of a Wyandot chief in Oklahoma; also another obtained in 1903 from Atowa Tohonadiheta, a Canadian Iroquois. The second belt is said to have been used at a treaty in 1612.

**Traditions as to Mound Origins.** — In *Rec. Past*, X, 1911, p. 242, A. B. STOUT reports the statement of a Winnebago Indian as to the origin of mounds near the Wisconsin River, viz. that some of them were for burial purposes, while others may have represented "spirit-animals" used as "totems." This information was obtained in the summer of 1910.

#### CANADA

**Industries of Haida, Tsimshian, etc.** — In *Am. Mus. J.* XI, 1911, pp. 130-137 (5 figs.), E. C. B. FASSETT describes the first four of a series of mural paintings by W. S. Taylor in the American Museum of Natural History, New York. These portray the following: Weaving a Chilkat blanket, steaming and decorating a Haida canoe, Tsimshians making *eulachon* butter, and a Bella Coola (Bilqula) family making "bread."

**Totem Poles.** — In *Am. Mus. J.* XI, 1911, pp. 77-82 (10 figs.), H. I. SMITH treats briefly of totem poles of the North Pacific coast, figuring poles from the Haidas, Tlingit, Comox, Bella Coola, etc. According to the author a crude *tamanawas* board from Bay Center (Wash.) is evidence of "totem pole influence south of the North Pacific culture area."

**Le Jeune's Shorthand.** — In *Southern Workman*, XI, 1911, pp. 480-485 (fig.), L. E. ZEH writes of the shorthand system which Father Le Jeune taught the Indians of the region about Kamloops, B.C., who now can read and write in it. The *Kamloops Wawa* (published in the Chinook Jargon) is now printed from type specially made for the purpose.

**Handicrafts of Northern Ojibwas.** — In his article on 'Life and Handicrafts of the Northern Ojibwas,' in *Southern Workman*, XI, 1911, pp. 273-278 (5 figs.), CHARLES A. EASTMAN gives some notes on basketry, net-making, skin-dressing, canoe-making, etc., among the Ojibwa Indians of Lake of the Woods, Rainy Lake, etc.

**Hurons of Lorette.** — In *Am. Anthr.* N.S. XIII, 1911, pp. 208-228 (4 pls.; 19 figs.), F. G. SPECK discusses the material culture of the Hurons of Lorette visited by him in 1908-9 and 1911, — their clothing and ornament, hide-tanning, means of transportation (snow-shoes and implements used in making them, sleds and toboggans, utensils and manufactures, basketry, birch-bark and wooden ware), lacrosse-sticks, toy bow and arrow, and dolls.

For boring holes in wood is used "an ingenious horizontal chest bow-drill." Two wampum belts (one Huron, the other Wyandot) are described and figured (pp. 227-228),—they are now in the collection of Mr. G. G. Heye. Another belt is still in possession of the chief of the Hurons. The art of canoe-making (birch-bark) has been much modified by Malisit influence; *ibid.* pp. 1-14 (3 pls.; 8 figs.), he discusses in some detail Huron moose-hair embroidery. The two wampum belts are also figured and described by him in *Museum Journal*, University of Pennsylvania, II, 1911, pp. 26-27 (fig.).

#### MEXICO

**The Stucco Façade of Acanceh in Yucatan.**—In *Sitzb. Berl. Akad.* 1911, xlv, xlvii, pp. 1011-1025 (10 pls.; 3 figs.), EDUARD SELER describes and discusses the stucco façade of a pyramid at Acanceh in Yucatan, which is fast being destroyed. The façade has an upper and a lower cornice and a broad band between. All are decorated with reliefs divided into compartments. The designs of the broad field are fantastic animals, birds, etc., the meaning of which might perhaps be made out if the other sides of the pyramid were uncovered.

**Symbolism of the Eye in Ancient Mexico.**—In *Arch. Anthr.* N.F. X, 1911, pp. 39-42 (27 figs.), H. BEYER treats of the symbolism of the eye in the Aztec Codices, etc. The eye represents a star, and appears in conventionalized form in hair and breast ornaments. It symbolizes death and night so closely akin, and the west, being the region of night, is symbolized by the star-eye. The "eye of darkness" is found elsewhere in connection with the gods. The eye represents also light and fire, life, *chalchihuitl*.

**A Sacrificial Vessel.**—In *Z. Ethn.* XLIII, 1911, pp. 293-306 (6 figs.), K. T. PREUSS seeks to explain the sacrificial vessel, or *quauhxicalli* of the ancient Mexicans through the *tuša* or gourd-dish on the altar of the Cora Indians of the village of Jesus Maria, in the light of the explanations given him by the natives. According to Preuss, the Mexican *quauhxicalli*, with the figure of the sun, is the prototype of the gourd-vessel on the altar of the Cora,—both signify, in their details, a number of identical things. The Cora vessel is not used for human sacrifice, although as such it was earlier attributed to the Indians of this part of Mexico.

**Ancient Mexican Manuscripts and the Development of Writing.**—In *Proc. Am. Ant. Soc.*, N.S. XXI, 1911, pp. 80-98 (7 pls.; 16 figs.), A. M. TOZZER discusses the value of ancient Mexican manuscripts in the study of the general development of writing, with reproductions from the Mendoza Codex and other documents. According to the writer, "there is found in Mexico, perhaps to a greater degree than in any other one place in the world, examples of all the different kinds of writing," from "a preliminary stage of reminders," to "the beginning a syllabary, the first step in the development of a phonetic writing, and a step beyond which the Nahuas did not go." Possibly, if they had been left to develop their culture in their own way, a true alphabet might have arisen among them. The hieroglyphic writing of the Mayas "does not serve as well as that of the Nahuas to illustrate the various steps in the development of writing as a whole." Moreover, far less is known concerning the phonetic components of the Maya glyphs.

**Notes on the Codex Troano.**—In *C. R. Acad. Insc.* 1911, pp. 516–522 Dr. CAPITAN publishes four observations on the Mayan Codex Troano. 1. Certain figures in the manuscript which appear to be boring, cutting, or painting a head are making an eye in the head of an idol. 2. The two gods, of whom one seems to be smoking a large cigar, and the other holding implements for making a noise, are producing a volcanic eruption with the accompanying noise. The five hieroglyphs beside these figures he would read *manik, kan, men, eb, ahau* and translate, “He seized his magic instrument, and the earth rose before the god.” 3. He suggests that the trumpet before the god Itzamna is an augmentative from the hieroglyphic writing. 4. Certain figures have on their heads what looks like a stick ending with a hook in front. This is really the *atlal* or throwing-stick. Various South American tribes are known to carry their weapons on their heads.

**Religious Relics in the Otomi District of Lerma.**—In his ethnographic account of the Otomis of the District of Lerma, State of Mexico, in *An. Mus. Nac. de Arqueol.* III, 1911, pp. 57–85 (9 pls.; 5 figs.), P. HENNING devotes a section (pp. 68–78) to the subject of religion, and calls attention to influences of old heathendom on the “Christian” cult of the country to-day, particularly with respect to image-worship, etc. The image of the famous Señor de la Cana at Lerma recalls, *e.g.*, the Tlaloc-Cinteotl of the ancient Nahuas; the image of the Virgin of Guadalupe at Tultepec, and that also at Ameyalco resemble markedly the goddess Xilonen. Much of the ancient Indian cult still survives among these Indians, and in the region about Lerma there are a number of shrines or chapels, where the natives carry out some of the old ceremonies of a more or less religious character. In the shrine of San Nicolas Peralta are crosses dedicated to the Virgin and to Jesus, before which offerings of copal, etc., are made. On these crosses the face of Jesus is given rays, and other *rapprochements* to solar ideas occur; others are adorned with stars only. At Acapulco, to the southeast of Ocoyoacan, is another of these shrines, where the crosses dedicated to Jesus, in their adornment, in the offerings, etc., bear evidence that “the Indians are Catholics in those points having the nearest affinity to their ancient beliefs.”

**Chichen Itza.**—In *Museum Journal*, University of Pennsylvania, II, 1911, pp. 10–21 (8 figs.), G. B. GORDON gives an account of a visit to the ruins of Chichen Itza in the summer of 1910.

**Diminutive Dolls.**—In *Nat. Geogr. Mag.* XXII, 1911, pp. 295–299, R. H. MILLWARD describes “the smallest dolls in the world,” made by Isabel Belaunsavan, a Mexican Indian maiden of Cuernavaca, seventy-five miles from the capital of Mexico, in the fertile valley of Cuernavaca. At Cuernavaca are also the “Lizard Stone” and the “Victory Stone,” besides many other prehistoric stone carvings. Not far off are the ruins of Xochicalco; and seven miles away, at the Indian village of Juitepec, “some of their mysterious customs are still observed.”

**Ruins near Chalchihuites.**—In *An. Mus. Nac. de Arqueol.* II, 1910–1911, pp. 467–492 (8 pls.; 5 plans), M. GAMIO gives an account, based on a three months’ visit in 1908 under the auspices of the Mexican National Museum, of the archaeological remains in the vicinity of Chalchihuites, in the State of Zacatecas. These include numerous artificial caves, fortifications, dwellings (isolated and in groups), and, on the ranch of Alta Vista,



a group of buildings, buried under heaps of earth, with the doorways blocked up, etc. This was evidently done intentionally for some reason or other. The writer states that there is evidence of a great fire having taken place before the burying and blocking up. The remains at Alta Vista consist of a hall of twenty-eight columns with two entrances; and at the west of the main building some minor buildings connecting with it. There are likewise terraces or platforms, stairways, etc. The columns are arranged in four series of seven parallel to the walls. In the central nucleus of the locality are more than twenty mounds, and many more in the vicinity. This, with the numerous indications of dwellings, the evidences of fortifications on the neighboring hills (particularly the Cerro del Chapin, etc.), indicates that the place must have been of considerable importance. Among the objects discovered at Alta Vista were many specimens of pottery of two types (glazed and painted; unglazed, with ornamentation by incrustation and cloissoné). Human bones, but too much disintegrated to be removed, were found in great quantity. One skull bore evidence of having been trepanned. In structure and form the column "are identical with those of La Quemada," while certain other things, such, *e.g.*, as the adobe employed, a metate, some stone axes, certain "amulets" found in the column-hall, etc., suggest comparison with the Casas Grandes ruins of the Pueblo region of Arizona and New Mexico. Sr. Gamio is of opinion that the remains of Chalchihuites represent the northern limit of the column and stairway type of architecture belonging to south and southeast Mexico, and that there is evidence also of Pueblo influence. In fact, "they constitute a transition between North and South."

#### CENTRAL AMERICA

**Chiriqui.** — In *Mem. Conn. Acad. Arts and Sci.* III, 1911, xx + 249 pp. (49 pls.; 38 figs.), G. G. MACCURDY treats of the antiquities of Chiriqui, Panama, giving chiefly the result of "a careful study of the unparalleled collection of Chiriquian antiquities belonging to the University." The material consists of stone objects (arrow- and spear-points, celts, polishing-stones, *metates*, rubbing or hand-stones, stools, images, ornaments, petroglyphs); pottery and clay objects, unpainted and painted vessels, etc.; stools, spindle-whorls and stamps, needle-cases, figurines, musical instruments, rattles, drums, wind-instruments; metal objects (alloys of gold and copper, casting, articles of use, ornaments, figurines, animal and human and with mixed attributes, masques, plaques), etc. The writer sees a "general phylogenetic trend in the development of Chiriquian art as a whole." And, outside of architecture, "the stone art of Chiriqui compares favorably with that of Mexico or Peru." The material is classified according to animal *motifs* (armadillo, serpent, fish, etc.). Three distinct systems of painting are noted. The great majority of the metal pieces were cast, wholly, or in part. Among the figures are recognized a number of deities (the alligator, parrot, jaguar, crab, and other gods). The plastic origin of the armadillo *motifs* asserts itself, even when transferred from unpainted to painted ware. The boundaries of Chiriquian culture exceeded those of the modern Province of this name, particularly in the direction of Costa Rica. Evidences of contact with and influence by South America are not wanting.



This valuable monograph is provided with a historical introduction, a bibliography, and a good index.

#### SOUTH AMERICA

**Prehistory of Córdoba.**—In *Rev. Mus. La Plata*, XVII, 1911, pp. 261–374 (134 figs.), F. F. OUTES treats of the prehistoric and the protohistoric periods in the Province of Córdoba, Argentina. After discussing the geology and stratigraphy of the region and the palaeolithic sites, the author takes up the neolithic period. The collections of material for both neolithic and palaeolithic periods in the La Plata museum (pottery, metal, shell, and bone objects, flints and stone implements, weapons, etc., are considered with some detail. At pages 312–317 the author describes and figures the rock-pictures and petroglyphs of the cerro Casa del Sol, the cerro Colorado, the arroyo Luampampa, etc. The Malagüeño finds he considers doubtful, and those of the locality of the Astronomical Observatory among the least doubtful, but they do not prove the existence of pleistocene man in this region of Argentina. At pages 292–293 the ancient Indians of the Córdoba country, Sanavirones, Comechingones, etc., are discussed. The neolithic sites in this region are very numerous. Among the more interesting specimens are the polished stone axes (some of which are carved with ornamental designs, etc.—these come especially from Lago San Roque), rude clay anthropomorphic figures, men and women, with sex indicated only by some secondary characters. The latest finds to be chronicled are a grinding-hole in the rock and a stone mortar from Dalmacio Vélez.

**The Stone Age in Bolivia.**—In *Bull. Soc. d'Anthr.* VI, 1910, pp. 189–190, M. G. COURTY discusses briefly the Stone Age on the Bolivian plateaus, giving the results of investigations made in 1903–1904, particularly the flints of Acheulean type, which belong rather to the Changos, and are comparatively recent. The flints found at Colcha in Bolivia are probably due to the direct predecessors of the modern Quechias. At an altitude of 4400 metres above sea-level on the cerro Relave, near San Antonio de Lipez, the writer discovered an important place of manufacture of black and green quartzites, the forms of which suggest the thick scrapers of the European neolithic period. Relave, according to M. Courty, exhibits the oldest implements of all the high plateau. A palaeolithic industry has not yet been proved for South America, but the establishment of all divisions in the neolithic is, he thinks, now possible.

**The Ancient Peruvian Throwing-stick.**—In *C. R. Acad. Insc.* 1911, pp. 407–410, Dr. CAPITAN discusses four throwing-sticks of different types from Peru, and two vases from the oldest period of Peruvian civilization, on which the use of the throwing-stick is illustrated. All of the objects are in the author's own collection.

**Basketry in British Guiana.**—In *J. R. Anthr. Inst.* XLI, 1911, pp. 72–82 (15 pls.), W. E. ROTH discusses with some detail the manufacture of open-work basketry, traps, fans, etc., among the Arawaks and Warraus of the Pomeroun. Temporary baskets of palm leaves are made by the Warrau women and the Arawak men, but “all baskets for permanent use are made by men, and manufactured in different styles, according to the pattern of the foundation, *tuinatuku*.”

**A Stone Seat from Manabi, Ecuador.** — In *Am. Mus. J.* XI, 1911, p. 83 (fig.), C. W. MEAD has a note on a stone seat from Manabi. There are two such in the Stapleton collection in the American Museum of Natural History, New York.

**South American Toys.** — In *Z. Ethn.* XLIII, 1911, pp. 237-239 (5 figs), DR. KARUTZ of Lübeck, referring to Nordenskiöld's article, *ibid.* XLII, pp. 427-433, disagrees with his conclusion that similarity in the toys of North and South America proves that there was once a lively intercourse between the two continents. While he does not deny this frequency of intercourse, he thinks the similarity in toys no proof of this, and points to the identity of spring beanshooters, buzz-wheels, and popguns of East and West Africa with those of South America. He thinks such toys the natural and universal invention of primitive peoples, and refers to their distribution all over Europe.

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1911

WILLIAM N. BATES, *Editor-in-charge*

\* \* Books, pamphlets, and other matter for the Bibliography should be addressed to Professor WILLIAM N. BATES, 220, St. Mark's Square, Philadelphia, Pa.

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